SITE DEVELOPMENT PLANS
PREPARED FOR
NORTHERN PASS TRANSMISSION, LLC
PROPOSED TRANSITION STATION #5

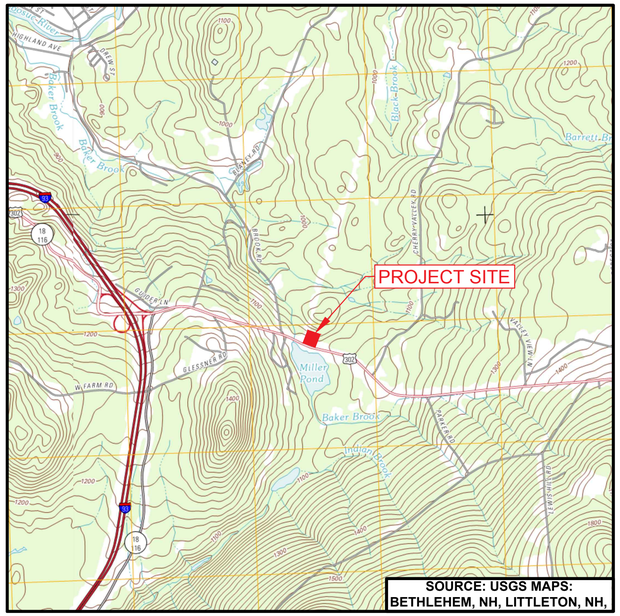
MAIN STREET (US ROUTE 302), BETHLEHEM, NH 03574

OWNER:

THE NORTHERN PASS

ENGINEER:

BURNS McDONNELL



NORTH

VICINITY MAP

0 2000' 4000'

SCALE IN FEET

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OCTOBER 1, 2015

FOR PERMITTING PURPOSES ONLY NOT FOR CONSTRUCTION

NEW HAMPSHIRE STATE LAW REQUIRES HOMEOWNERS AND CONTRACTORS TO CONTACT DIG SAFE, BY DIALING 8-1-1 AT LEAST THREE BUSINESS DAYS BEFORE BEGINNING ANY DIGGING OR EXCAVATION PROJECT. WHEN DIG SAFE RECEIVES A CALL, THE HOMEOWNER OR CONTRACTOR MUST WAIT 72 BUSINESS HOURS. DURING THIS TIME, UTILITY REPRESENTATIVES RESPOND TO MARK THEIR LINES WITHIN YOUR PRE-MARKED AREA. ALL INFORMATION REGARDING DIG SAFE RULES AND REGULATIONS CAN ALSO BE FOUND AT www.digsafe.com.

This document has been digitally sealed.
Oct 5 2015

NO.	ISSUED FOR PERMITTING / REVISION	DATE	DRWN	CHKD	APPRV.
1		10/1/15	FP	RLR	BSS

THE NORTHERN PASS

Transmission Business

TRANSITION STATION #5
COVER SHEET

DATE: 10/1/2015

SCALE: N/S

DES: LMP | CHK: RLR
DRW: FP | APR: BSS

TOWN: BETHLEHEM, NH

TRANSMISSION LINE:

MILE NO:

SHEET 1 OF 18

NPTT801-CVR

REVISION: XXX

BACKGROUND NOTES:

1. BACKGROUND INFORMATION TAKEN FROM "EXISTING CONDITIONS PLAN" LL 3140 FOR BETHLEHEM VENTURES, LLC, 1071 MAIN STREET, BETHLEHEM, NH. PREPARED BY CHA, CONSULTING, INC. DATED AUGUST 12, 2015. SURFACE OBSERVABLE INFORMATION SHOWN HEREON IS THE RESULT OF AN ON-THE-GROUND SURVEY PERFORMED BY CHA, CONSULTING INC. IN JULY 2015. A WETLAND IS PRESENT ON THE NORTHERN HALF OF THE SITE BUT WAS NOT FLAGGED DURING THE FIELD SURVEY PERFORMED BY NORMANDEAU.
2. ELEVATIONS, CONTOURS AND BENCHMARKS ARE BASED ON NAVD 1988 VERTICAL DATUM.
3. HORIZONTAL LOCATIONS ARE BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM NAD 83.
4. THE SITE IS LOCATED WITHIN ZONE 'X' FLOOD ZONE AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NUMBER 33009C0136E PANEL 136 OF 1185, GRAFTON COUNTY, NH, DATED FEBRUARY 20, 2008.
5. PROPERTY AREA = 0.925± ACRES, NPDES/LIMIT OF DISTURBANCE (LOD) AREA TOTAL = 0.884-ACRES (OF WHICH 0.839-ACRES IS ON-SITE AND 0.045-ACRES IS OFF-SITE IN MAIN STREET).

GENERAL NOTES:

1. GENERAL NOTES SHALL APPLY TO THE SITE DEVELOPMENT PLANS THROUGHOUT. REFER TO INDIVIDUAL SHEETS FOR SHEET SPECIFIC NOTES.
2. CONTRACTOR(S) TO TAKE AND VERIFY ALL DIMENSIONS AND CONDITIONS OF THE WORK AND BE RESPONSIBLE FOR COORDINATION OF SAME. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF WORK.
3. ENGINEER ASSUMES NO RESPONSIBILITY AS TO THE CONTENT OF THE EXISTING CONDITIONS PLAN INCLUDING BUT NOT LIMITED TO LOCATION, SIZE, AND ELEVATIONS OF UTILITIES AND STRUCTURES NOT VISIBLE AND WHERE TAKEN FROM PLANS BY OTHERS.
4. EXISTING CONDITIONS SURVEY INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY COMPANY AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIGSAFE" PRIOR TO COMMENCEMENT OF WORK AT "811" AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.
5. THE CONTRACTOR SHALL VERIFY ALL EXISTING SITE AND BUILDING CONDITIONS IN THE FIELD AND CONTACT THE OWNER AND ENGINEER IF THERE ARE ANY QUESTIONS AND/OR CONFLICTS REGARDING THE SITE DEVELOPMENT PLANS AND/OR EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS MANUAL FOR ADDITIONAL INFORMATION. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED, EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, INFORM THE OWNER AND CONSULT THE CIVIL ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
6. ALL CONSTRUCTION SHALL COMPLY WITH PROJECT SPECIFICATION MANUAL, EVERSOURCE STANDARDS AND SPECIFICATIONS, AND THESE PLANS. IF SPECIFICATIONS ARE IN CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL APPLY. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE OSHA, FEDERAL, STATE AND LOCAL REGULATIONS. INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   a. NEW HAMPSHIRE STORMWATER MANUAL, VOLUMES 1, 2 & 3, DECEMBER 2008.
   b. NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION MANUAL ON DRAINAGE DESIGN FOR HIGHWAYS, REVISION DATE APRIL 1998.
   c. NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS (2010).
   d. EVERSOURCE BEST MANAGEMENT PRACTICES MANUAL (TO BE FURTHER DEVELOPED).
   e. EVERSOURCE STANDARD SPECIFICATIONS (10-24-2014).
7. DO NOT INTERRUPT EXISTING SERVICING UTILITIES AND FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER, THE LOCAL MUNICIPALITIES, THE UTILITY PROVIDER, AND ANY APPLICABLE REGULATORY AGENCY. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.
8. THE CONTRACTOR SHALL PROVIDE RECORD AS-BUILT DRAWINGS OF ALL CONSTRUCTION IN ACCORDANCE WITH OWNER AND REGULATORY AGENCY REQUIREMENTS (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER AT THE END OF CONSTRUCTION.
9. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING PLANS. IN CASE OF CONFLICT BETWEEN PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
10. IF A CONFLICT ARISES BETWEEN PLANS, SPECIFICATIONS, AND/OR DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
11. THE CONTRACTOR SHALL ABIDE BY ALL OSHA, FEDERAL, STATE, AND LOCAL REGULATIONS IN ALL INSTANCES AND WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES, CONTACT POWER COMPANY TO MAKE ARRANGEMENT FOR PROPER SAFEGUARDS. ANY UTILITY COMPANY FEES SHALL BE PAID FOR BY THE CONTRACTOR.
12. THE ENGINEER IS NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ENGINEER HAS NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOB SITE RESPONSIBILITIES, SUPERVISION OR TO SUPERVISE SAFETY AND DOES NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
13. ALL NOTES AND DIMENSIONS DESIGNATED "TYPICAL" OR "(TYP.)" APPLY TO ALL LIKE OR SIMILAR CONDITIONS THROUGHOUT THE PROJECT.
14. ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF SUBMITTED, REVIEWED, AND APPROVED BY THE OWNER, ENGINEER, AND APPROPRIATE REGULATORY AGENCY PRIOR TO CONSTRUCTION.
15. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS AND MATERIALS PER PLANS AND SPECIFICATIONS TO THE OWNER AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ORDERING, FABRICATION, OR DELIVERY TO THE SITE. FOR EACH SUBMITTAL, ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW.
16. THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS OR SIGNAGE AND OTHER INCIDENTAL DISTURBANCES AND DAMAGES DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE OWNER, ENGINEER AND REGULATORY AGENCY.
17. THE CONTRACTOR SHALL COMPLY WITH 29 CFR PART 1926 FOR EXCAVATION TRENCHING AND TRENCH PROTECTION REQUIREMENTS.
18. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
19. DEMOLITION OF EXISTING CONDITIONS INCLUDING BUT NOT LIMITED TO BUILDINGS, STRUCTURES, PAVEMENT, WELLS, SEPTIC, SANITARY SEWER, FENCES, TREES, ETC. SHALL BE PER THE DIRECTION OF EVERSOURCE AND SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
20. PERMANENT BENCHMARKS SHALL BE INSTALLED UPON COMPLETION OF CLEARING.
21. ELECTRICAL SUBSTATION COMPONENTS, UNDERGROUND TRANSMISSION LINES, OVER HEAD TRANSMISSION LINES AND THEIR FOUNDATIONS DEPICTED HEREIN ARE FOR REFERENCE ONLY.
22. ANY CLEARED AND EXCAVATED MATERIALS WHICH ARE SUSPECTED OF BEING ENVIRONMENTALLY POLLUTED, CONTAMINATED, OR IMPACTED SHALL BE STOCKPILED ON-SITE ON TOP OF POLYETHYLENE SHEETING AND COVERED WITH POLYETHYLENE SHEETING. THE OWNER AND ENGINEER SHALL BE IMMEDIATELY INFORMED UPON ENCOUNTERING THIS MATERIAL. STORAGE, TESTING, TREATMENT, REMOVAL, AND DISPOSAL OF ENVIRONMENTALLY POLLUTED, CONTAMINATED, OR IMPACTED MATERIAL SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
23. CONTRACTOR SHALL TAKE PRECAUTIONS TO ENSURE NO DISTURBANCE BEYOND THE DEPICTED LIMIT OF DISTURBANCE.
24. THE CONTRACTOR SHALL ESTABLISH BEST MANAGEMENT PRACTICES FOR BLASTING OF BEDROCK IN ACCORDANCE WITH THE NHDES PUBLICATION WD-10-12. ROCK BLASTING AND WATER QUALITY MEASURES THAT CAN BE TAKEN TO PROTECT WATER QUALITY AND MITIGATE IMPACTS, 2010. IF THE BLAST ROCK VOLUME GENERATED IS GREATER THAN 5,000 CUBIC YARDS, THE CONTRACTOR SHALL DEVELOP A GROUNDWATER MONITORING PROGRAM FOR SUBMISSION TO THE OWNER AND ENGINEER. BLASTING SHALL NOT COMMENCE UNTIL THESE REQUIREMENTS ARE APPROVED BY THE NHDES, AS REQUIRED.
25. PROPOSED STORM DRAINAGE SYSTEM SHALL BE HS-20 RATED.

EXISTING LEGEND

	PROPERTY LINE
	ADJOINING PROPERTY LINE
	RIGHT OF WAY LINE
	EASEMENT LINE
385	MAJOR CONTOUR
381	MINOR CONTOUR
	TREELINE
OHW	OVER HEAD WIRE
	STOCKADE FENCE
	CHAIN LINK FENCE
	WETLANDS LINE
	STREAM OR WATERWAY
	STONEWALL
WF600-9	WETLAND FLAG
IP	IRON PIPE
CB/DH	CONCRETE BOUND WITH DRILL HOLE
SB/DH	STONE BOUND WITH DRILL HOLE
	SURVEY CONTROL POINT
	UTILITY POLE
	WETLANDS
	BUILDING TO BE DEMOLISHED

PROPOSED LEGEND

385	MAJOR CONTOUR
381	MINOR CONTOUR
	TREELINE
	PERIMETER FENCE
	GUIDERAIL
	SILT FENCE
	CONSTRUCTION FENCE
	LIMIT OF STONE SURFACING
LOD	LIMIT OF DISTURBANCE
	STORMWATER SWALE
	STORM SEWER PIPE
	STORM INLET
	MANHOLE
	OUTLET CONTROL STRUCTURE
	FLARED END SECTION
CO	CLEANOUT
380.50	SPOT ELEVATION
	RIP RAP
	STONE SURFACING
	ASPHALT PAVEMENT
UaC UaD	NRCS SOIL TYPE/BOUNDARY

LIST OF ABBREVIATIONS

ACP	ASBESTOS CEMENT PIPE
APT	ANGLE POINT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BIT	BITUMINOUS CONCRETE
BLDG	BUILDING
BM	BENCH MARK
BW	BOTTOM OF WALL
CB	CATCH BASIN
CATV	CABLE TELEVISION
CI	CAST IRON PIPE
CIC	CAST IRON COVER
℄	CENTERLINE
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
COR	CORNER
CTRS	CENTERS
DIA	DIAMETER
DMH	DRAINAGE MANHOLE
DRIVE	DRIVEWAY
E	EASTING
EL	ELEVATION
EMH	ELECTRIC MANHOLE
EOP	EDGE OF PAVEMENT
EXP	EXPANSION
EXIST	EXISTING
G	GAS
GALV	GALVANIZED
GR	GRATE
HDPE	CORRUGATED HIGH DENSITY POLYETHYLENE PIPE
HT	HEIGHT
INV	INVERT
LBS	POUNDS
LF	LINEAR FOOT
LG	WALL HIGH GRADE
LOD	LIMIT OF DISTURBANCE
MAX	MAXIMUM
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
N	NORTHING
NO	NUMBER
NOM	NOMINAL
OC	ON CENTER
OCS	OUTLET CONTROL STRUCTURE
OD	OUTSIDE DIMENSION
PC	POINT OF CURVATURE
PED	PEDESTRIAN
POB	POINT OF BEGINNING
PIV	POST INDICATOR VALVE
PRC	POINT OF REVERSE CURVATURE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE PIPE
R	RADIUS
RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SESC	SOIL EROSION AND SEDIMENT CONTROL
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SSFM	SANITARY SEWER FORCE MAIN
SQ FT	SQUARE FOOT
SQ M	SQUARE METER
TYP	TYPICAL
TW	TOP OF WALL
UC	UNDERGROUND COMMUNICATION
UD	UNDERDRAIN
UE	UNDERGROUND ELECTRICAL
UP	UTILITY POLE
VC	VITRIFIED CLAY PIPE
W/O	WITHOUT

STATE OF NEW HAMPSHIRE – BRIAN S. KAKIDOVITCH – No. 14328 – LICENSED PROFESSIONAL ENGINEER

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Oct 5 2015

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NO.	ISSUED FOR PERMITTING REVISION	DATE	DRWN	CHKD	APPRV
1	ISSUED FOR PERMITTING	10/1/15	FP	RLR	BSS

THE NORTHERN PASS
Transmission Business

TRANSITION STATION #5
GENERAL NOTES AND LEGEND

DATE: 10/1/2015
SCALE: N.T.S.

DES: LMP | CHK: RLR
DRW: FP | APR: BSS
TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
SHEET 2 OF 18
NPTT802-G001
REVISION: XXX

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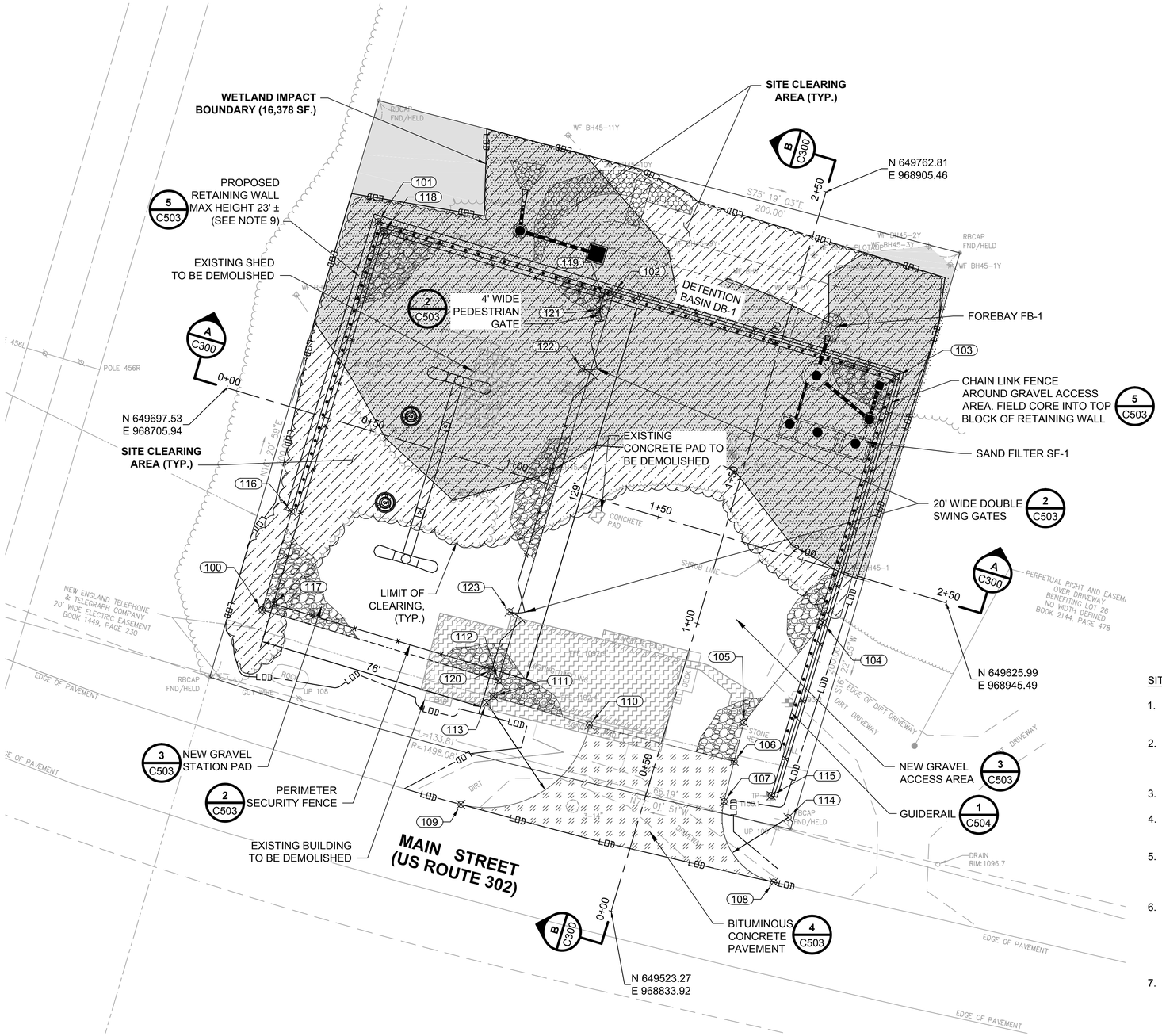

LAYOUT POINT TABLE			
POINT #	NORTHING	EASTING	DESCRIPTION
100	649623.57	968717.70	PAD CORNER
101	649752.93	968756.33	WALL/PAD CORNER
102	649729.46	968834.91	WALL CORNER
103	649701.39	968928.93	WALL/PAD CORNER
104	649619.42	968904.45	PAD CORNER
105	649586.13	968878.12	PAD CORNER
106	649573.19	968874.87	COR PAD/DRIVE
107	649559.81	968871.51	DRIVE PC
108	649532.99	968888.06	DRIVE AT ROAD
109	649558.84	968783.89	DRIVE AT ROAD
110	649585.29	968826.67	DRIVE CORNER
111	649594.84	968794.70	PAD CORNER
112	649600.11	968796.28	PAD CORNER
113	649592.77	968792.48	35' RAD PT
114	649554.46	968892.85	22' RAD PT
115	649561.77	968887.23	WALL END
116	649656.32	968727.48	WALL END
117	649625.59	968721.44	FENCE CORNER
118	649749.19	968758.36	FENCE CORNER
119	649727.45	968831.17	FENCE CORNER
120	649603.84	968794.26	FENCE CORNER
121	649723.61	968830.03	PED GATE
122	649703.96	968824.16	GATE
123	649622.99	968799.98	GATE

SITE PLAN NOTES:

1. REFER TO SHEET NPTT802-G001 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
2. THE STATION ELECTRICAL EQUIPMENT, ENCLOSURES, FOUNDATIONS, OTHER STATION APPURTENANCES, OVERHEAD TRANSMISSION, AND UNDERGROUND TRANSMISSION ARE SHOWN FOR REFERENCE ONLY.
3. THIS DRAWING IS INTENDED TO DEPICT SITE LAYOUT ONLY.
4. CONTRACTOR SHALL TAKE PRECAUTIONS TO ENSURE NO DISTURBANCE BEYOND DEPICTED LIMIT OF NPDES/LIMIT OF DISTURBANCE.
5. NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM
   HORIZONTAL DATUM - NAD83
   VERTICAL DATUM - NAVD88
6. UPON COMPLETION OF SITE CLEARING, THE CONTRACTOR SHALL FURNISH AND INSTALL PERMANENT BENCHMARKS IN THE LOCATIONS DEPICTED ON THE PLANS IN ACCORDANCE WITH THE STATE OF NEW HAMPSHIRE SURVEYING CODES AND STANDARDS. BENCHMARK ELEVATIONS SHALL BE SET IN FIELD AND VERIFIED PRIOR TO START OF CONSTRUCTION.
7. CONTRACTOR SHALL INSTALL GUIDERAIL SYSTEMS AS DEPICTED IN ACCORDANCE WITH NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND STANDARD PLANS FOR THRIE BEAM SINGLE FACED GUIDERAIL WITH STEEL POSTS AND TERMINAL UNIT TYPE G-2. THIS END SECTION IS NOT CRASH WORTHY. IT IS INTENDED FOR USE PRIMARILY ON LOW SPEED ACCESS ROADS WHERE IT CAN NOT BE HIT.
8. OFFSITE ROADWAY (TOWN AND/OR STATE) IMPROVEMENTS AS A RESULT OF THE STATION DEVELOPMENT ARE NOT ANTICIPATED.
9. CONTRACTOR SHALL PROVIDE SIGNED AND SEALED DRAWINGS AND DESIGN CALCULATIONS BY A LICENSED ENGINEER IN THE STATE OF NEW HAMPSHIRE PRIOR TO START OF CONSTRUCTION.

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Oct 5 2015

NORTH

0 10' 20' 40'
SCALE IN FEET

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NO.	REVISION	DATE	DRWN	ChkD	APPRV.
1	ISSUED FOR PERMITTING	10/1/15	FP	RLR	BSS

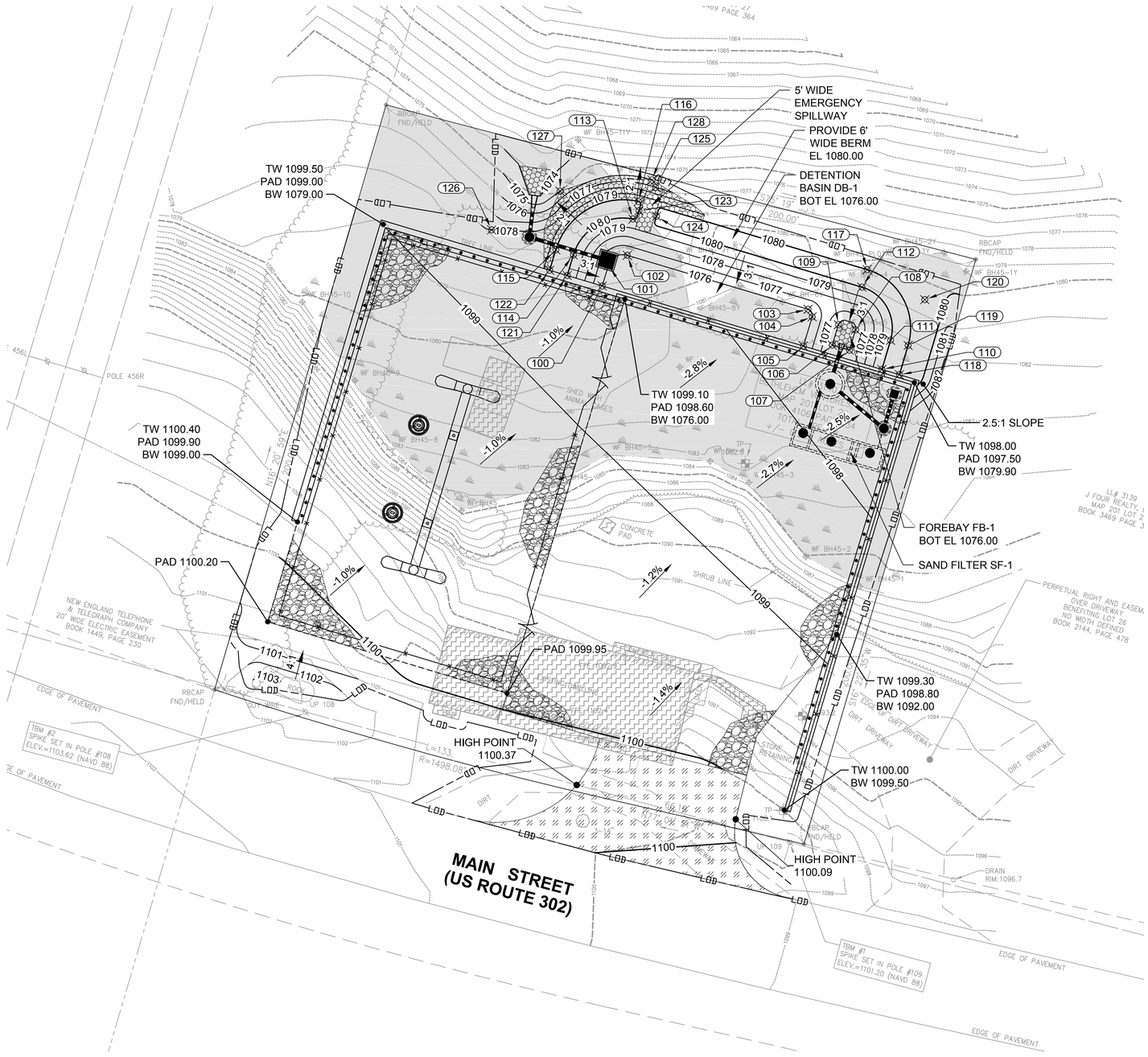
THE NORTHERN PASS
Transmission Business

TRANSITION STATION #5
SITE LAYOUT PLAN

DATE: 10/1/2015
SCALE: 1" = 20'

DES: LMP	CHK:RLR
DRW: FP	APR: BSS
TOWN: BETHLEHEM, NH	
TRANSMISSION LINE:	
MILE NO:	
SHEET 3 OF 18	
NPTT803-C100	

REVISION: XXX



Grading Layout Point Table				
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101	649740.47	968829.48	1076.00	BSLOPE
102	649743.84	968835.70	1076.00	BSLOPE
103	649726.13	968895.01	1076.00	BSLOPE
104	649723.64	968896.35	1076.00	BSLOPE
105	649714.06	968893.49	1076.00	BSLOPE
106	649714.35	968902.97	1076.00	BSLOPE
107	649712.68	968908.59	1076.00	BSLOPE
108	649719.38	968910.59	1076.00	BSLOPE
109	649721.06	968904.97	1076.00	BSLOPE
110	649706.37	968919.23	1080.00	TSLOPE
111	649715.95	968922.09	1080.00	TSLOPE
112	649733.37	968912.68	1080.00	TSLOPE
113	649755.73	968837.54	1080.00	TSLOPE
114	649743.91	968817.98	1080.00	TSLOPE

Grading Layout Point Table				
Point #	Northing	Easting	Elevation	Raw Description
115	649745.63	968812.23	1080.00	TSLOPE
116	649761.48	968839.34	1080.00	TSLOPE
117	649739.12	968914.40	1080.00	TSLOPE
118	649704.65	968924.98	1080.00	TSLOPE
119	649714.23	968927.84	1080.00	TSLOPE
120	649729.27	968933.30	1079.50	LOW POINT
121	649737.20	968815.98	1080.00	TSLOPE
122	649738.92	968810.23	1080.00	TSLOPE
123	649758.44	968839.54	1080.00	CL SPILLWAY
124	649756.63	968845.27	1080.00	CL SPILLWAY
125	649766.12	968844.97	1077.00	CL SPILLWAY
126	649752.17	968791.19	1078.00	TSLOPE
127	649764.88	968813.62	0.00	BSLOPE
128	649768.56	968843.76	1076.00	BSLOPE

GRADING PLAN NOTES:

1. REFER TO SHEET NPTT802-G001 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
2. REFER TO SHEET NPTT803-C100 FOR LOCATIONS OF WALL, PAD AND DRIVEWAY.
3. REFER TO SHEET NPTT808-C300 FOR GRADING CROSS SECTIONS.
4. NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM
   HORIZONTAL DATUM - NAD83
   VERTICAL DATUM - NAVD88
5. PROPOSED CONTOURS AND SPOT ELEVATIONS INDICATED REFER TO TOP OF FINISH SURFACE.
6. ALL FILL AND CUT SLOPES ARE 3-FT HORIZONTAL TO 1-FT VERTICAL (3:1) UNLESS NOTED OTHERWISE.
7. CONTRACTOR SHALL PLACE 4" TOPSOIL AND SEED ON ALL CUT AND FILL SLOPES AS SPECIFIED UNLESS ANOTHER SURFACE MATERIAL IS INDICATED. EROSION CONTROL BLANKETS (NORTH AMERICAN GREEN SC250 OR ENGINEER APPROVED EQUAL) SHALL BE PLACED OVER ALL SEEDED SIDE SLOPES.
8. AFTER COMPLETION OF YARD SUBGRADE WORK, THE SURFACE COURSE FOR THE SUBSTATION (INSIDE THE FENCE, 3-FT OUTSIDE THE FENCE, AND WHERE INDICATED ON THE PLANS) SHALL CONSISTS OF A 4-INCH LAYER OF CRUSHED BASALT (ANGULAR STONE) STONE MEETING THE GRADATION REQUIREMENTS EXPLAINED IN THE SPECIFICATIONS.
9. CONTRACTOR SHALL PROTECT/REPAIR ALL SLOPES UNTIL FINAL VEGETATIVE OR STONE STABILIZATION.
10. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED AND STABILIZED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS.
11. STABILIZE ALL DITCHES, SWALES, AND PONDS PRIOR TO DIRECTING STORMWATER RUNOFF TO THEM.
12. TURF REINFORCEMENT MAT (TRM) SHALL BE INSTALLED ON ALL 3-FT HORIZONTAL TO 1-FT VERTICAL SLOPES (3:1) OR STEEPER, AND BE NORTH AMERICAN GREEN SC250 OR APPROVED EQUAL.
13. EARTHWORK AND COMPACTION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL ENGINEERING REPORT BY OTHERS.

This document has been digitally sealed.
Oct 5 2015

NORTH

0 10' 20' 40'
SCALE IN FEET

FOR PERMITTING PURPOSES ONLY NOT FOR CONSTRUCTION

NO.	REVISION	DATE	DRWN	CHKD	APPRV
1	ISSUED FOR PERMITTING	10/7/15	FP	RLR	BSS

THE NORTHERN PASS
Transmission Business

TRANSITION STATION #5
GRADING PLAN

DATE: 10/7/2015
SCALE: 1" = 20'

DES: LMP	CHK:RLR
DRW: FP	APR: BSS
TOWN: BETHLEHEM, NH	
TRANSMISSION LINE:	
MILE NO:	
SHEET 4 OF 18	
NPTT804-C101	
REVISION: XXX	

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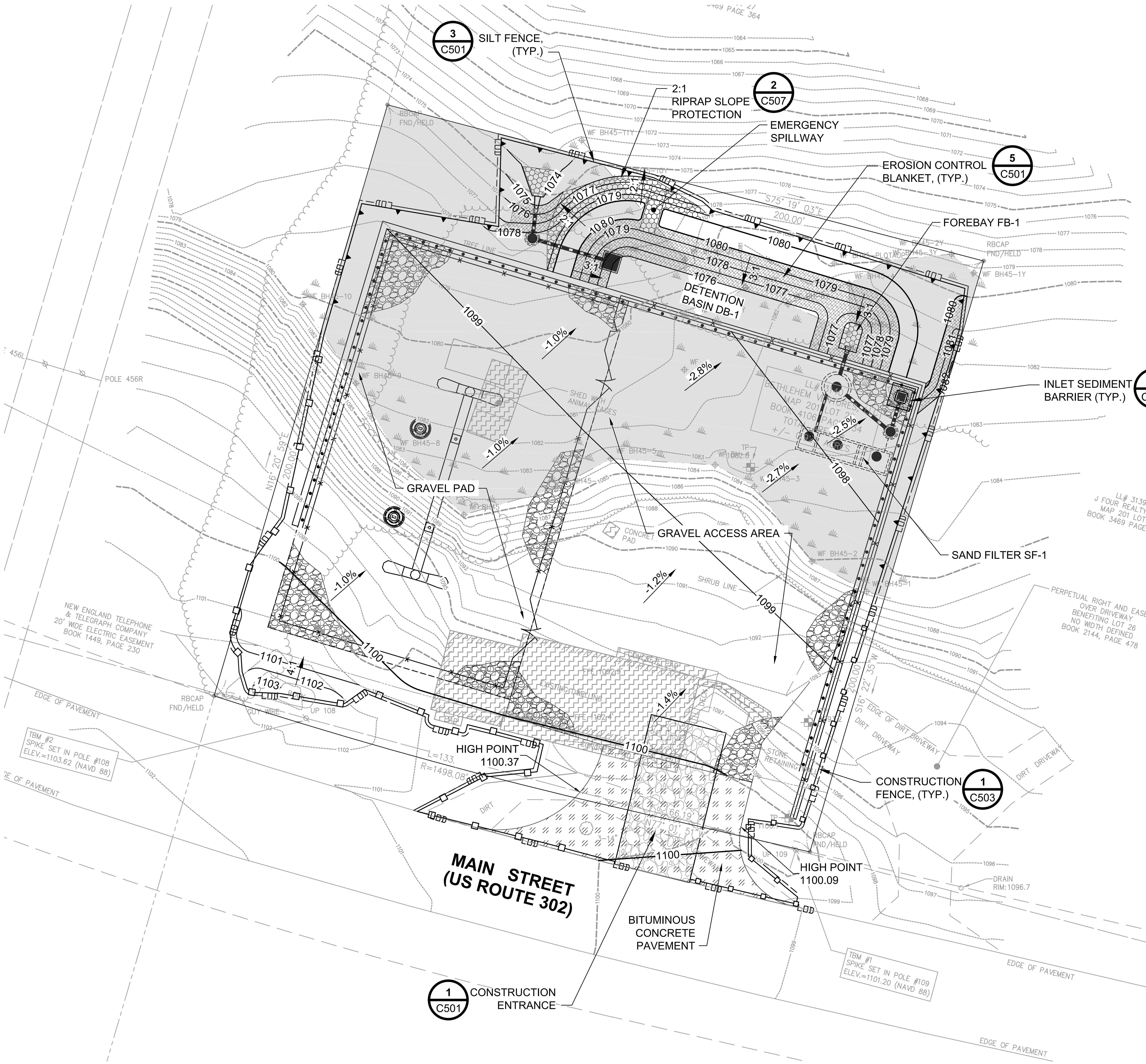

SEDIMENT & EROSION CONTROL LEGEND

CONSTRUCTION FENCE

EROSION CONTROL BLANKET

INLET PROTECTION

SILT FENCE

STABLIZED CONSTRUCTION ENTRANCE

NOTES:

1. REFER TO SHEET NPTT809-C500 FOR EROSION AND SEDIMENTATION NOTES.
2. TOTAL LIMIT OF DISTURBANCE - 38,518 SF = 0.884 ACRES.

NO.	REVISION	DATE	DRWN	CHKD	APPRV.
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0 10' 20' 40'
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THE NORTHERN PASS

Transmission Business

TRANSITION STATION #5
EROSION AND
SEDIMENTATION CONTROL PLAN

DATE: 10/1/2015
SCALE: 1" = 20'

DES: LMP | CHK: RLR
DRW: FP | APR: BSS

TOWN: BETHLEHEM, NH

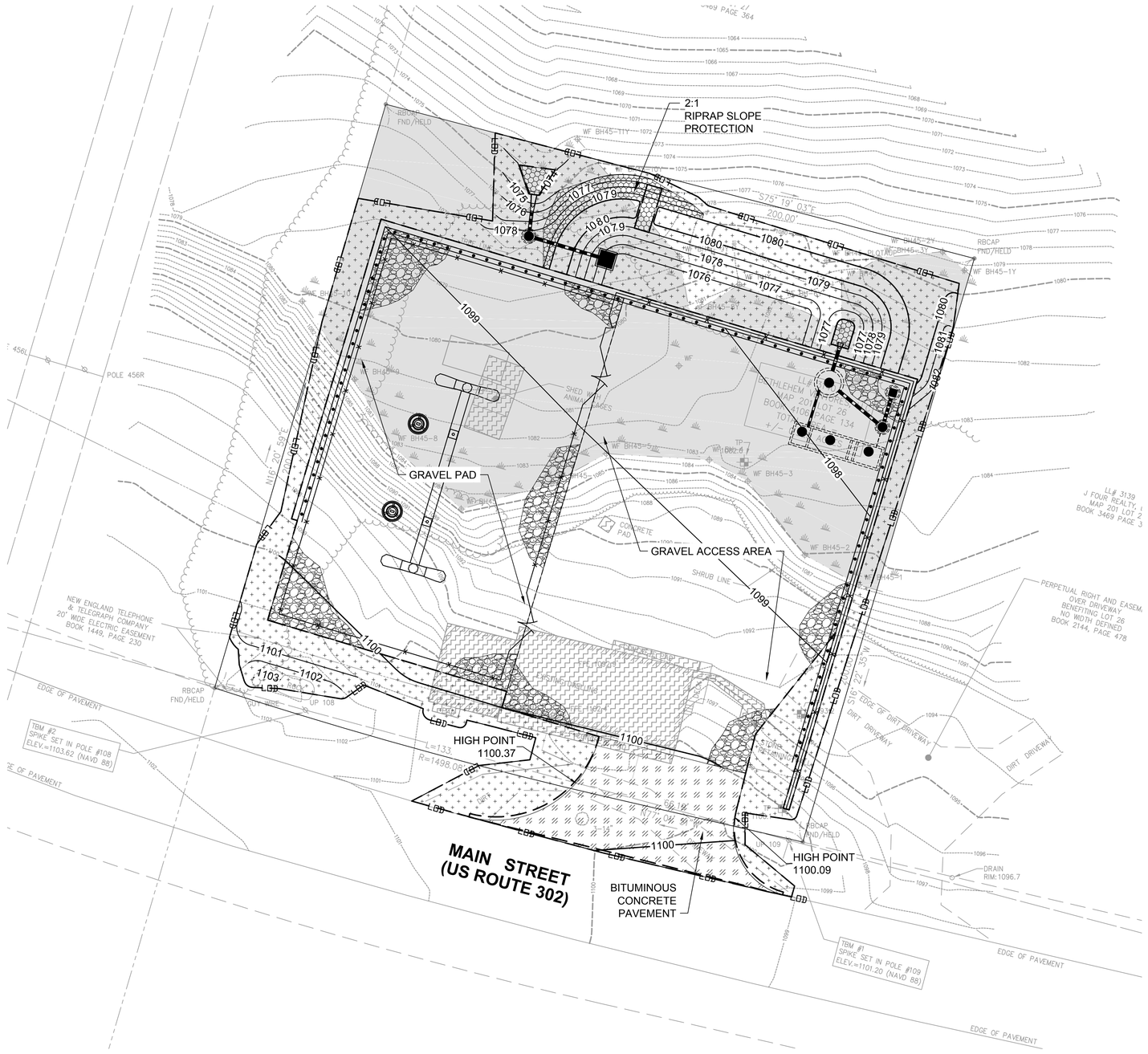
TRANSMISSION LINE:

MILE NO:

SHEET 5 OF 18

NPTT805-C102

REVISION: XXX



PLANTING PLAN NOTES:

1. REFER TO SHEET NPTT802-G001 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
2. THIS DRAWING IS INTENDED TO DESCRIBE LANDSCAPE INFORMATION ONLY.
3. ALL DISTURBED AREAS NOT OTHERWISE DEVELOPED SHALL HAVE A MINIMUM OF 4" OF LOAM AND THE FOLLOWING SEED MIXTURE:
   NHDOT TYPE 44 (MIN. 80 LBS/ACRE):
   44% CREEPING RED FESCUE (MIN. 35 LBS/ACRE)
   38% PERENNIAL RYEGRASS (MIN. 30 LBS/ACRE)
   6% REDTOP (MIN. 5 LBS/ACRE)
   6% ALSIKE CLOVER (MIN. 5 LBS/ACRE)
   6% BIRDSFOOT TREFOIL (MIN. 5 LBS/ACRE)
   ALL SEEDING SHALL BE IN ACCORDANCE WITH THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (2010) SECTION 644 -- GRASS SEED AND THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES STORMWATER MANUAL VOLUME 3 PERMANENT VEGETATION IN SECTION 4.1.
4. NO SEEDING SHALL BE PLACED BEFORE ROUGH GRADING HAS BEEN PROPERLY COMPLETED.
5. TOPSOIL SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4". CONTRACTOR SHALL SUBMIT SAMPLES FROM EACH PROPOSED TOPSOIL SOURCE TO A CERTIFIED TESTING LABORATORY TO DETERMINE pH, FERTILITY, ORGANIC CONTENT AND MECHANICAL COMPOSITION. CONTRACTOR SHALL SUBMIT THE TEST RESULTS TO OWNER OR LANDSCAPE ARCHITECT FOR REVIEW. CONTRACTOR SHALL INCORPORATE AMENDMENTS FOR PROPER SOIL pH AND PLANT GROWTH AS RECOMMENDED BY TEST REPORTS AT NO INCREASE IN CONTRACT PRICE.
6. TEMPORARY AND PERMANENT SEEDING SHALL SHALL BE IN ACCORDANCE WITH THE PLANTING PLAN, NH DES STORMWATER MANUAL VOLUME 3, AND NH DOT STANDARD SPECIFICATIONS SECTION 644.
7. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES -- 6 TO 12 INCHES ON COMPACTED SOILS -- PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING.
8. PLACING LOAM ON SITE: ALL SUBGRADE ELEVATIONS SHOULD BE UNIFORMLY GRADED TO RECEIVE LOAM AND SHALL BE INSPECTED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO PLACEMENT OF LOAM. PLACE LOAM TO FORM A MINIMUM DEPTH OF 4" WHEN ROLLED, UNLESS OTHERWISE INDICATED. ALL DEPRESSIONS EXPOSED DURING THE ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM.
9. SEED BED PREPARATION: AFTER FINISH GRADING AND JUST BEFORE SEEDING, THE AREAS TO BE SEEDED SHALL BE LOOSENED TO PROVIDE A ROUGH, FIRM BUT FINELY PULVERIZED SEEDBED. THE INTENT IS A TEXTURE CAPABLE OF RETAINING WATER, SEED AND FERTILIZER WHILE REMAINING STABLE AND ALLOWING SEED TIME TO GERMINATE. SEED SHALL BE APPLIED TO THE CONDITIONED SEEDBED NOT MORE THAN 48 HOURS AFTER THE SEEDBED HAS BEEN PREPARED.
10. LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE SOIL PRIOR TO OR AT THE TIME OF AT THE TIME OF SEEDING. A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS. PER ACRE OF 10-20-20 FERTILIZER SHALL BE APPLIED. SEEDING PRACTICES SHALL COMPLY WITH LOCAL USDA SOIL CONSERVATION SERVICES RECOMMENDATIONS.
11. STRAW MULCH OR JUTE MATTING SHALL BE USED WHERE INDICATED ON THE PLANS. A MINIMUM OF 1.5 TONS OF MULCH PER ACRE SHALL BE APPLIED. MULCH SHALL BE ANCHORED IN PLACE WHERE NECESSARY. JUTE MATTING SHALL BE LAID IN THE DIRECTION OF RUNOFF FLOW AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
12. PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS AREA NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 15 TO SEPTEMBER 15. NO DISTURBED AREA SHALL BE LEFT EXPOSED DURING WINTER MONTHS.

PLANTING LEGEND

SEEDING & MULCHING

AREA TO BE SEEDED = 0.24 ACRES

0 10' 20' 40'
SCALE IN FEET

NORTH

STATE OF NEW HAMPSHIRE
BRIAN S. KLEKOWICH
No. 14326
LICENSED PROFESSIONAL ENGINEER

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TRANSITION STATION #5
PLANTING PLAN

DATE: 10/1/2015
SCALE: 1" = 20'

DES: LMP | CHK: RLR
DRW: FP | APR: BSS
TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
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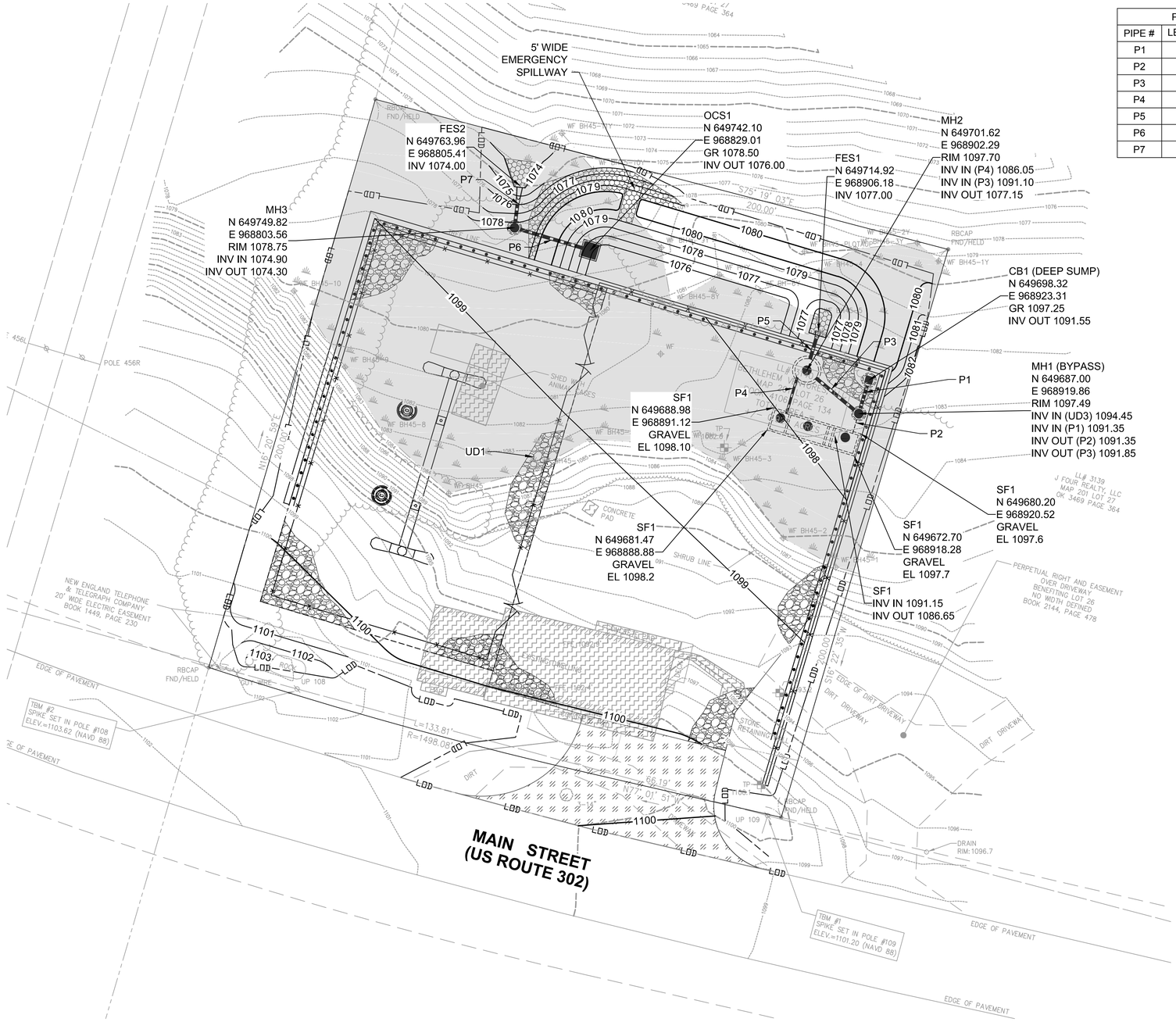
NPTT806-C103
REVISION: XXX



PIPE AND UNDERDRAIN SCHEDULE			
PIPE #	LENGTH (FT)	SLOPE	SIZE
P1	8	0.025	12" HDPE
P2	5	0.040	2" PVC
P3	17	0.044	12" HDPE
P4	13	0.046	8" PVC
P5	6	0.025	12" HDPE
P6	22	0.050	12" RCP
P7	6	0.050	12" RCP

STORMWATER SYSTEM PLAN NOTES:

1. REFER TO SHEET NPTT802-G001 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
2. THIS DRAWING IS INTENDED TO DESCRIBE THE STORMWATER SYSTEM ONLY.
3. NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM
   HORIZONTAL DATUM - NAD83
   VERTICAL DATUM - NAVD88
4. STORM DRAINAGE SYSTEM CONNECTIONS, MATERIALS, AND METHODS SHALL BE IN ACCORDANCE WITH THE NH DOT STANDARDS AND NH DOT SPECIFICATION SECTIONS 603 AND 604, AS WELL AS OTHER APPLICABLE INDUSTRY CODES AND GOVERNING AGENCY REQUIREMENTS.
5. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE ELEVATION AND LOCATION OF ALL UTILITIES BY VARIOUS MEANS PRIOR TO BEGINNING ANY EXCAVATION. TEST PITS SHALL BE DUG AT ALL LOCATIONS WHERE PROPOSED STORM PIPING WILL CROSS EXISTING UTILITIES, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES SHALL BE DETERMINED. THE CONTRACTOR SHALL CONTACT THE ENGINEER IN THE EVENT OF ANY DISCOVERED OR UNFORESEEN CONFLICTS BETWEEN EXISTING AND PROPOSED SANITARY SEWERS, STORM PIPING AND UTILITIES SO THAT AN APPROPRIATE MODIFICATION MAY BE MADE.
6. MANHOLE RIMS AND CATCH BASIN GRATES SHALL BE SET TO ELEVATIONS SHOWN. SET ALL EXISTING MANHOLE RIMS, GRATES AND OTHER UTILITY TOPS TO BE RAISED OR LOWERED FLUSH WITH FINAL GRADE AS NECESSARY.
7. THE CONTRACTOR SHALL ARRANGE FOR AND COORDINATE WITH APPLICABLE REGULATORY AGENCIES FOR STORM DRAINAGE INSTALLATIONS AND CONNECTIONS.
8. THE CONTRACTOR SHALL COORDINATE WORK TO BE PERFORMED BY THE VARIOUS UTILITY PROVIDERS AND SHALL PAY ALL FEES FOR CONNECTIONS, DISCONNECTIONS, RELOCATIONS, INSPECTIONS, AND DEMOLITION UNLESS OTHERWISE STATED IN THE PROJECT SPECIFICATIONS MANUAL AND/OR GENERAL CONDITIONS OF THE CONTRACT.
9. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
10. ALL UTILITY CONSTRUCTION IS SUBJECT TO INSPECTION FOR APPROVAL PRIOR TO BACKFILLING, IN ACCORDANCE WITH THE APPROPRIATE OWNER, UTILITY PROVIDER, AND APPLICABLE REGULATORY AGENCY REQUIREMENTS.
11. A ONE-FOOT MINIMUM VERTICAL CLEARANCE BETWEEN ELECTRICAL AND TELEPHONE LINES TO STORM PIPING SHALL BE PROVIDED.
12. SITE CONTRACTOR SHALL PROVIDE ALL BENDS, FITTINGS, ADAPTERS, ETC., AS REQUIRED FOR PIPE CONNECTIONS.
13. THE CONTRACTOR SHALL MAINTAIN ALL FLOWS AND UTILITY CONNECTIONS WITHOUT INTERRUPTION UNLESS/UNTIL AUTHORIZED BY THE OWNER, THE ENGINEER, UTILITY PROVIDERS AND GOVERNING AUTHORITIES.
14. STORM DRAINAGE SHALL BE RATED FOR HS-20 LOADING.
15. UNDERDRAINS MAY BE REQUIRED AS DEEMED NECESSARY BY THE OWNER, GEOTECHNICAL ENGINEER AND/OR ENGINEER BASED ON FINDINGS AFTER EARTHWORK AND EXCAVATION OPERATIONS COMMENCE. PROVIDE MINIMUM 0.5% SLOPE ON ALL UNDERDRAINS. ADDITIONALLY PROVIDE UNDERDRAIN CLEANOUTS AT A MINIMUM OF EVERY 200' OF PIPE OR ONE CLEANOUT PER PIPE RUN WHERE THE PIPE RUN IS LESS THAN 200'.

STORMWATER SYSTEM DETAILS REFERENCE LIST

1 C505	STORM MANHOLE / CATCH BASIN	4 C505	MANHOLE FRAME & COVER	3 C506	PIPE TRENCH	2 C508	OUTLET CONTROL STRUCTURE
2 C505	TYPE E GRATE & FRAME	1,5 C506	END SECTIONS	1,2,3 C507	DETENTION BASIN / SPILLWAY / SLOPE DETAILS	3 C508	ANTI SEEP COLLAR
3 C505	STORM MANHOLE / CATCH BASIN STEPS	2 C506	OUTLET PROTECTION	1 C508	DETENTION BASIN CROSS SECTION	1 C509	SAND FILTER

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TRANSITION STATION #5
STORMWATER SYSTEM PLAN

DATE: 10/7/2015
SCALE: 1" = 20'

DES: LMP | CHK: RLR
DRW: FP | APR: BSS

TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
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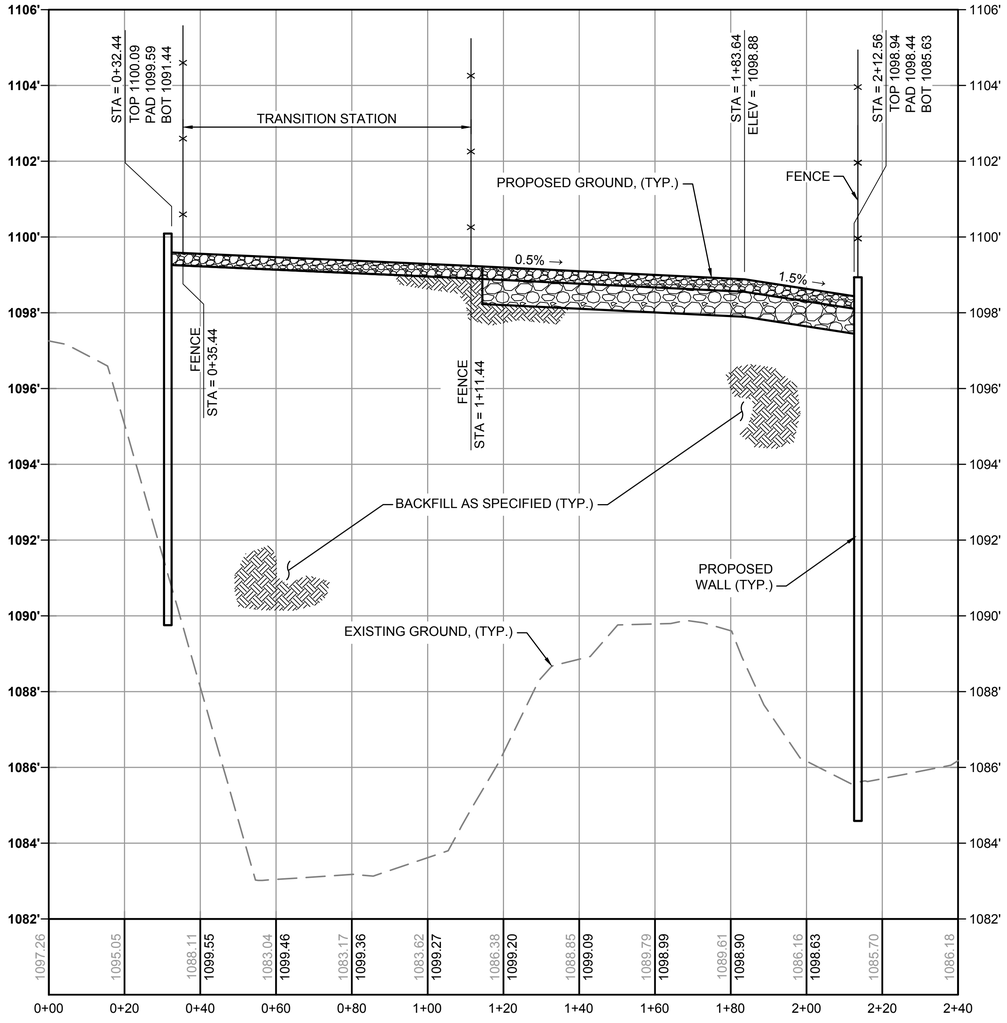
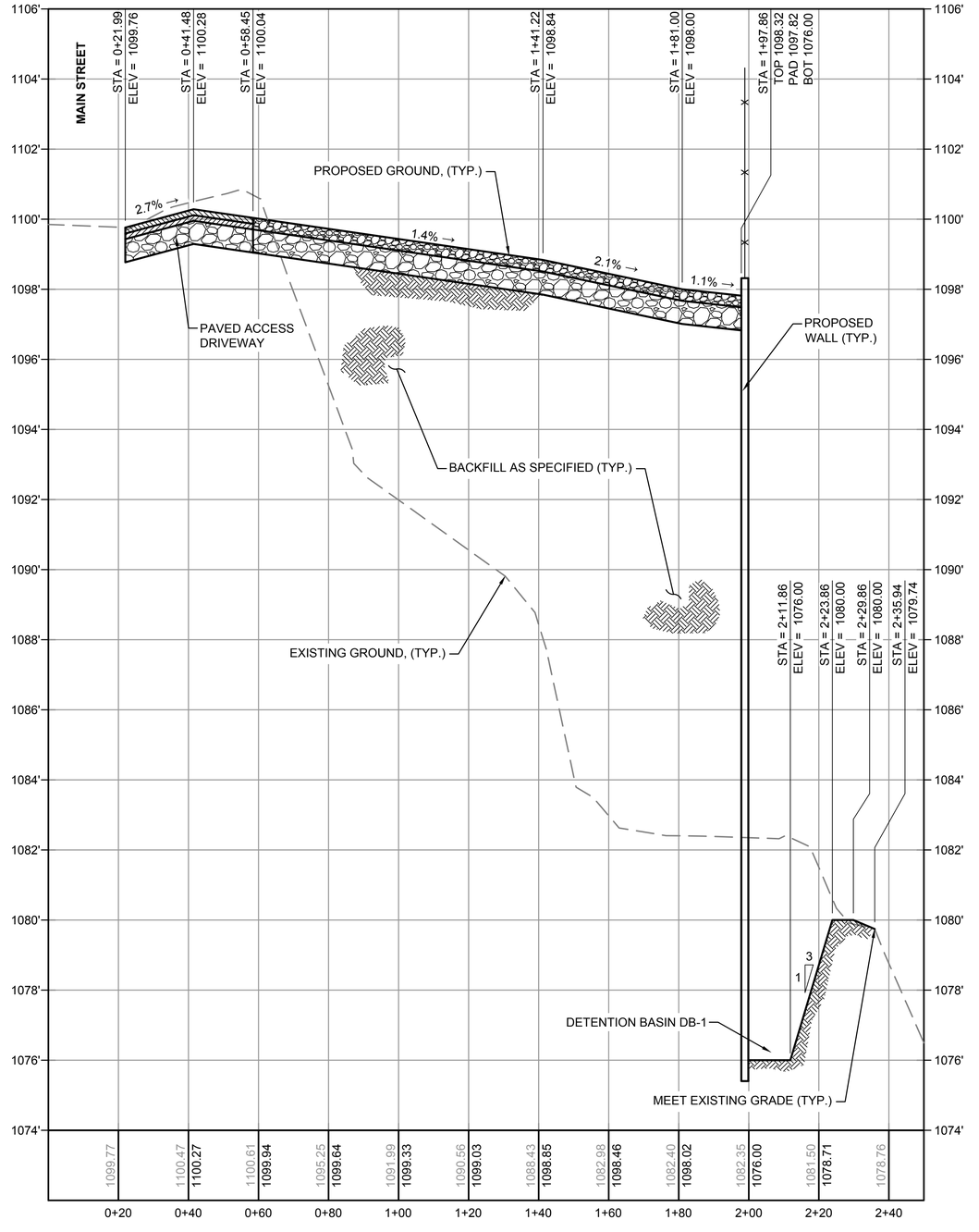
NPTT807-C104
REVISION: XXX



SECTION A-A
SCALE HOR 1" = 20'
VER 1" = 2'



SECTION B-B
SCALE HOR 1" = 20'
VER 1" = 2'

GRADING CROSS SECTION NOTES:

1. REFER TO SHEET NPTT802-G001 FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
2. THIS DRAWING IS INTENDED TO DESCRIBE THE GRADING CROSS SECTIONS ONLY.
3. NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM
   HORIZONTAL DATUM - NAD83
   VERTICAL DATUM - NAVD88
4. PROPOSED CONTOURS AND SPOT ELEVATIONS INDICATED REFER TO TOP OF FINISH SURFACE.
5. CONTRACTOR SHALL PLACE 4" TOPSOIL AND SEED ON ALL CUT AND FILL SLOPES AS SPECIFIED UNLESS ANOTHER SURFACE MATERIAL IS INDICATED.
6. EARTHWORK AND COMPACTION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS REPORT BY OTHERS.
7. STRIP AND STOCKPILE EXISTING TOPSOIL IN AREAS OF PROPOSED GRADING AND EARTHWORK.

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Oct 5 2015

VERTICAL
0 2' 4'
SCALE IN FEET

HORIZONTAL
0 10' 20' 40'
SCALE IN FEET

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NO.	REVISION	DATE	DRWN	ChkD	APPRV
1	ISSUED FOR PERMITTING	10/1/15	FP	RLR	BSS

THE NORTHERN PASS
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TRANSITION STATION #5
SITE CROSS SECTIONS

SCALE: HOR 1" = 20' VER 1" = 2' DATE: 10/1/2015

DES: LMP CHK: RLR
DRW: FP APR: BSS
TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
SHEET 8 OF 18
NPTT808-C300
REVISION: XXX

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EROSION AND SEDIMENTATION CONTROL GENERAL NOTES:

1. THE SEDIMENT AND EROSION CONTROL PLAN IS ONLY INTENDED TO DESCRIBE THE SEDIMENT AND EROSION CONTROL TREATMENT FOR THIS SITE. SEE SEDIMENT AND EROSION CONTROL DETAILS AND CONSTRUCTION SEQUENCE. REFER TO SITE PLAN FOR GENERAL INFORMATION AND OTHER CONTRACT PLANS FOR APPROPRIATE INFORMATION.

2. CONSTRUCTION ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE GENERAL NOTES, SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING BY THE OWNER, QUALIFIED PROFESSIONAL, AND APPROPRIATE REGULATORY AGENCY PRIOR TO IMPLEMENTATION.

3. THE EROSION AND SEDIMENTATION CONTROL MEASURES, CONSTRUCTION SEQUENCE AND PHASING IS THE MINIMUM RECOMMENDED. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ADDITIONAL MEASURES AND SEQUENCING AS REQUIRED BASED ON ACTUAL FIELD OPERATIONS AND CONDITIONS AND BE CONSISTENT WITH THE NEW HAMPSHIRE STORMWATER MANUAL. SIGNIFICANT ADDITIONS AND/OR MODIFICATIONS FROM THE PLANS SHALL BE SUBMITTED, REVIEWED AND APPROVED BY THE OWNER, QUALIFIED PROFESSIONAL AND APPLICABLE REGULATORY AGENCIES.

4. THE SEDIMENT AND EROSION CONTROL PLAN WAS DEVELOPED TO HELP PROTECT THE EXISTING ROADWAY AND STORM DRAINAGE SYSTEMS, ADJACENT PROPERTIES, AND ADJACENT WETLAND AREA FROM SEDIMENT LADEN SURFACE RUNOFF AND EROSION.

5. APPROPRIATE EROSION/SEDIMENT CONTROL MEASURES AS DESCRIBED HEREIN, SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF ALL CLEARING, DEMOLITION AND CONSTRUCTION ACTIVITY WITHIN THE APPROVED LIMITS OF DISTURBANCE. SCHEDULE WORK TO MINIMIZE THE LENGTH OF TIME THAT BARE SOIL WILL BE EXPOSED. CONTRACTOR SHALL ONLY EXCAVATE AS MUCH UTILITY AND STORM PIPE TRENCH WORK AS CAN BE COMPLETED, BACKFILLED AND STABILIZED IN ONE DAY SO AS TO LIMIT THE AMOUNT OF OPEN, DISTURBED TRENCHING. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.

6. THE CONTRACTOR SHALL INSTALL ALL SPECIFIED EROSION/SEDIMENT CONTROL MEASURES AND WILL BE REQUIRED TO MAINTAIN THEM IN THEIR INTENDED FUNCTIONING CONDITION AND BE IN STRICT CONFORMANCE WITH THE STANDARDS BELOW. THE CONTRACTOR SHALL SUPPLY AND MAINTAIN THESE STANDARDS AND HAVE THEM AVAILABLE ONSITE FOR THE DURATION OF CONSTRUCTION. THE OWNER, AGENTS OF THE REGULATORY AGENCIES AND/OR QUALIFIED PROFESSIONAL SHALL HAVE THE AUTHORITY TO REQUIRE SUPPLEMENTAL MAINTENANCE OR ADDITIONAL MEASURES IF FIELD CONDITIONS ARE ENCOUNTERED BEYOND WHAT WOULD NORMALLY BE ANTICIPATED.
   A. EVERSOURCE BEST MANAGEMENT PRACTICES MANUAL (TO BE FURTHER DEVELOPED).
   B. NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES STORMWATER MANUAL, DECEMBER 2008.

7. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.

8. THE CONTRACTOR SHALL KEEP A SUPPLY OF EROSION CONTROL MATERIAL (STRAW BALES, SILT FENCE, JUTE MESH,RIP RAP ETC.) ON-SITE FOR MAINTENANCE AND EMERGENCY REPAIRS.

9. STONE CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED AT START OF CONSTRUCTION AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION. THE LOCATION OF THE TRACKING PADS MAY CHANGE AS VARIOUS PHASES OF CONSTRUCTION ARE COMPLETED.

10. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING. ALL EARTH STOCKPILES SHALL HAVE STRAW BALES OR SILT FENCE AROUND THE LIMIT OF PILE. PILES SHALL BE TEMPORARILY SEEDED IF PILE IS TO REMAIN IN PLACE FOR MORE THAN 2 MONTHS.

11. COMPLY WITH REQUIREMENTS OF THE EPA FOR NPDES AND RECORD KEEPING.

12. VISUAL SITE INSPECTIONS SHALL BE CONDUCTED WEEKLY, AND AFTER EACH MEASURABLE PRECIPITATION EVENT OF 0.50 INCHES OR GREATER BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL, TO ASCERTAIN THAT THE EROSION AND SEDIMENT CONTROL (E&S) BMPS ARE OPERATIONAL AND EFFECTIVE IN PREVENTING POLLUTION. PROVIDE WRITTEN REPORTS IN ACCORDANCE WITH ANY APPLICABLE OWNER, QUALIFIED PROFESSIONAL, AND/OR REGULATORY AGENCY REQUIREMENTS.

13. STOCKPILES OF EARTH MATERIALS SHALL CONFORM TO SOIL STOCKPILE PRACTICES IN SECTION 4.1 OF THE NH DES STORMWATER MANUAL VOLUME 3.

14. DEWATERING SUMP PITS SHALL BE INSTALLED WHEN WATER COLLECTS DURING DURING EXCAVATION TO TRAP AND FILTER WATER FOR PUMPING INTO A SUITABLE DISCHARGE AREA. A PERFORATED VERTICAL STANDPIPE WRAPPED IN NON-WOVEN FILTER FABRIC IS PLACED IN THE CENTER OF THE PIT TO COLLECT FILTERED WATER WHERE IT IS THEN REMOVED FROM THE SUMP PIT IN AN AUTHORIZED MANNER. UNDER NO CIRCUMSTANCES SHALL DEWATERING DRAINAGE BE DISCHARGED INTO A SANITARY SEWER. CONSTRUCTION DEWATERING SHALL CONFORM TO CONSTRUCTION DEWATERING REQUIREMENTS OF THE NH DES STORMWATER MANUAL VOLUME 3 SECTION 4.2.

15. WATER SHALL BE USED FOR DUST CONTROL IN APPROPRIATE AREAS.

16. ALL REGULATORY AGENCY PERMITS REQUIRED FOR THE SITE SHALL BE OBTAINED PRIOR TO SITE WORK COMMENCES.

17. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.

18. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.

19. MAXIMUM SLOPES SHALL NOT EXCEED 3-FT HORIZONTAL TO 1-FT VERTICAL (3:1), UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL VERIFY SLOPE STABILITY OF ALL SLOPES PRIOR TO CONSTRUCTION. UNSTABLE SLOPES SHALL BE LAID BACK (FLATTENED) UNTIL STABLE OR PROVIDE REINFORCING TO ACHIEVE STABILIZATION. SLOPE BENCHES SHALL BE IN ACCORDANCE WITH THE NHDES STORMWATER MANUAL.

20. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES.

21. TEMPORARY AND PERMANENT SEEDING SHALL SHALL BE IN ACCORDANCE WITH THE PLANTING PLAN, NH DES STORMWATER MANUAL VOLUME 3, AND NH DOT STANDARD SPECIFICATIONS SECTION 644.

ALTERATION OF TERRAIN STANDARD NOTES:

1. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

2. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AS NECESSARY PRIOR TO FURTHER EARTH MOVING OPERATIONS. PREVENTION OF EROSION AND SEDIMENT TRANSPORTATION ISSUES WILL BE FACILITATED BY THE PROMPT EMPLOYMENT OF EFFECTIVE TEMPORARY AND PERMANENT CONTROL DEVICES, AS CONDITIONS WARRANT. ADDITIONAL CONTROL DEVICES THAT ARE DETERMINED NECESSARY, NOT OUTLINED HEREIN, MAY BE INSTALLED BY THE OWNER OR OPERATOR.

3. PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE PRIOR TO ROUGH GRADING THE SITE AND OTHER EARTH MOVING ACTIVITIES.

4. DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

5. ROADWAYS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

6. CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

7. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL MEASURES WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL DURING THE LIFE OF THE PROJECT. REMOVE TRAPPED SEDIMENT FROM COLLECTOR DEVICES AS NEEDED.

8. STABLE IS DEFINED AS:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED,
   B. A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED,
   C. A MINIMUM 3-INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED,
   D. OR EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

9. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

10. TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS ARE AS NOTED IN THE "VEGETATION MEASURES" SECTION ON THIS SHEET.

11. STANDARD WINTER NOTES:
   A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
   B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
   C. AFTER NOVEMBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

WINTER CONSTRUCTION NOTES:

1. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED AS SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.

2. AN AREA WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE SHALL BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIER.

3. TEMPORARY MULCH SHALL BE APPLIED WITHIN 7 DAYS OF SOIL EXPOSURE OR PRIOR TO ANY STORM EVENT, BUT AFTER EVERY WORKDAY IN AREAS WITHIN 100 FEET FROM A PROTECTED NATURAL RESOURCE.

4. AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE SHALL BE PERMANENTLY MULCHED THE SAME DAY.

5. IN THE EVENT OF A SNOWFALL GREATER THAN 1 INCH (FRESH OR CUMULATIVE), THE SNOW SHALL BE REMOVED FROM THE AREAS DUE TO BE SEEDED AND MULCHED.

6. LOAM SHALL BE FREE OF FROZEN CLUMPS BEFORE IT IS APPLIED.

7. A DITCH THAT WILL BE CONSTRUCTED DURING THE WINTER MUST BE STABILIZED WITH RIPRAP.

8. PERMANENT STABILIZATION CONSISTS OF AT LEAST 85% VEGETATION, PAVEMENT/GRAVEL BASE OR RIPRAP.

9. DO NOT EXPOSE SLOPES OR LEAVE SLOPES EXPOSED OVER THE WINTER OR FOR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY PROTECTED WITH MULCH AND EROSION CONTROLS.

10. APPLY STRAW MULCH AT TWICE THE STANDARD RATE (150 LBS. PER 1,000 SF). THE MULCH MUST BE THICK ENOUGH SUCH THAT THE GROUND SURFACE WILL NOT BE VISIBLE AND MUST BE ANCHORED.

11. USE MULCH AND MULCH NETTING OR AN EROSION CONTROL MULCH BLANKET OR MIX FOR ALL SLOPES GREATER THAN 8% OR OTHER AREAS EXPOSED TO DIRECT WIND.

12. INSTALL AN EROSION CONTROL BLANKET IN ALL DRAINAGE WAYS (BOTTOM AND SIDES) WITH A SLOPE GREATER THAN 3%.

13. SEE THE VEGETATION MEASURES FOR MORE INFORMATION ON SEEDING DATES AND TYPES.

CONSTRUCTION SEQUENCE:

THE FOLLOWING CONSTRUCTION SEQUENCE IS RECOMMENDED (COORDINATE ALL SITE ACTIVITIES AND CONSTRUCTION SEQUENCE WITH THAT OF THE STATION ELECTRICAL EQUIPMENT, OVERHEAD AND UNDERGROUND TRANSMISSION LINES, AND OTHER STATION RELATED CONSTRUCTION):

1. CONTACT THE OWNER, QUALIFIED PROFESSIONAL, AND REGULATORY AGENT AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION, CONSTRUCTION OR REGULATED ACTIVITY ON THIS PROJECT SITE.

2. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD AND APPROVED BY THE REGULATORY AGENT PRIOR TO THE START OF WORK ON THE SITE. INSTALL PERIMETER EROSION/SEDIMENT CONTROL MEASURES.

3. CONSTRUCT STONE CONSTRUCTION ENTRANCES/EXITS AND INSTALL INLET PROTECTION FOR CATCH BASINS OR INSTALL SILT SACKS ON CATCH BASIN INLETS LOCATED IN OFF-SITE ROADS. INSTALL SILT FENCE AND OTHER EROSION CONTROL DEVICES INDICATED ON THESE PLANS AT PERIMETER OF PROPOSED SITE DISTURBANCE AND INSTALL ALL EROSION/SEDIMENT CONTROL MEASURES AND TREE PROTECTION INDICATED ON THESE PLANS. INSTALL SEDIMENT BASINS AND SEDIMENT TRAPS IF REQUIRED AT LOW AREAS OF SITE OR AS ORDERED BY THE QUALIFIED PROFESSIONAL OR AS SHOWN ON THESE PLANS.

4. CLEAR AND GRUB SITE. STOCKPILE CHIPS. STOCKPILE TOPSOIL. INSTALL EROSION CONTROLS AT STOCKPILES.

5. COMMENCE INSTALLATION OF STORM DRAINAGE SYSTEM.

6. COMMENCE EARTHWORK. CONSTRUCT FILL SLOPE. INSTALL ADDITIONAL EROSION CONTROLS AS WORK PROGRESSES AND CONTINUE STORM DRAINAGE SYSTEM CONSTRUCTION, TOPSOIL AND SEED SLOPES WHICH HAVE ACHIEVED FINAL SITE GRADING.

7. CONSTRUCTION STAKING OF ALL FOUNDATION CORNERS, UTILITIES, ACCESS DRIVES, FENCES AND OTHER SITE APPURTENANCES.

8. ROUGH GRADING AND FILLING OF SUBGRADES AND SLOPES.

9. BEFORE DISPOSING OF SOIL OR RECEIVING BORROW FOR THE SITE, THE CONTRACTOR MUST PROVIDE EVIDENCE THAT EACH SPOIL OR BORROW AREA HAS AN EROSION AND SEDIMENT CONTROL PLAN APPROVED BY THE APPROPRIATE REGULATORY AGENCIES AND WHICH IS BEING IMPLEMENTED AND MAINTAINED. THE CONTRACTOR SHALL ALSO NOTIFY THE APPROPRIATE REGULATORY AGENCIES IN WRITING OF ALL RECEIVING SPOIL AND BORROW AREAS WHEN THEY HAVE BEEN IDENTIFIED.

10. CONTINUE INSTALLATION OF STORM DRAINAGE AS SUBGRADE ELEVATIONS ARE ACHIEVED.

11. CONSTRUCT PAD SUBGRADE PREPARATION AND BEGIN FOUNDATION CONSTRUCTION.

12. THROUGHOUT CONSTRUCTION SEQUENCE, REMOVE SEDIMENT FROM BEHIND SILT FENCES, STRAW BALES AND OTHER EROSION CONTROL DEVICES, AND FROM SEDIMENT TRAPS AS REQUIRED. REMOVAL SHALL BE ON A PERIODIC BASIS (EVERY SIGNIFICANT RAINFALL OF 0.50 INCH OR GREATER). INSPECTION OF EROSION/SEDIMENT CONTROL MEASURES SHALL BE ON A WEEKLY BASIS AND AFTER EACH RAINFALL OF 0.50 INCHES OR GREATER. SEDIMENT COLLECTED SHALL BE DEPOSITED AND SPREAD EVENLY UPLAND ON SLOPES DURING CONSTRUCTION.

13. COMPLETE GRADING TO SUBGRADES AND COMPLETE CONSTRUCTION OF FOUNDATIONS.

14. CONSTRUCT CURBS, PAVEMENT STRUCTURE AND SIDEWALKS

15. CONDUCT FINE GRADING.

16. PAVING OF ACCESS ROAD

17. CONSTRUCT OFF-SITE ROADWAY IMPROVEMENTS, AS NECESSARY.

18. INSTALL YARD SURFACE STONE. FINAL FINE GRADING OF SLOPE AND NON-PAVED AREAS.

19. PLACE 4" TOPSOIL ON SLOPES AFTER FINAL GRADING IS COMPLETED. FERTILIZE, SEED, AND MULCH.

20. LANDSCAPE INTERIOR NON-PAVED AREAS, NON-GRAVELED AREAS, AND PERIMETER AREAS.

21. INSTALL ON-SITE SIGNAGE AND PAVEMENT MARKINGS

22. CLEAN STORM DRAINAGE PIPE STRUCTURES, DETENTION SYSTEMS AND WATER QUALITY DEVICES OF DEBRIS AND SEDIMENT.

23. UPON DIRECTION OF THE OWNER, QUALIFIED PROFESSIONAL, AND REGULATORY AGENT, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED FOLLOWING STABILIZATION OF THE SITE.

ROUGH GRADING OPERATIONS

1. DURING THE REMOVAL AND/OR PLACEMENT OF EARTH AS INDICATED ON THE GRADING PLAN, TOPSOIL SHALL BE STRIPPED AND APPROPRIATELY STOCKPILED FOR REUSE.

2. ALL STOCKPILED TOPSOIL SHALL BE SEEDED, APPLY MULCH OR STRAW, AND ENCLOSED BY A SILTATION FENCE.

FILLING OPERATIONS

1. PRIOR TO FILLING, ALL SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE PROPERLY IMPLEMENTED, MAINTAINED AND FULLY INSTALLED, AS DIRECTED BY THE QUALIFIED PROFESSIONAL AND AS SHOWN ON THIS PLAN.

PLACEMENT OF DRAINAGE STRUCTURES, UTILITIES, AND FOUNDATION CONSTRUCTION OPERATIONS

1. SILT FENCES SHALL BE INSTALLED AT THE DOWNHILL SIDES OF EXCAVATIONS, MUD PUMP DISCHARGES, AND UTILITY TRENCH MATERIAL STOCKPILES. STRAW BALES MAY BE USED IF SHOWN ON THE EROSION CONTROL PLANS OR IF DIRECTED BY THE QUALIFIED PROFESSIONAL.

FINAL GRADING AND PAVING OPERATIONS

1. ALL INLET AND OUTLET PROTECTION SHALL BE PLACED AND MAINTAINED AS SHOWN ON EROSION CONTROL PLANS AND DETAILS, AND AS DESCRIBED IN SPECIFICATIONS AND AS DESCRIBED HEREIN.

2. NO CUT OR FILL SLOPES SHALL EXCEED 2:1 EXCEPT WHERE STABILIZED BY ROCK FACED EMBANKMENTS OR EROSION CONTROL BLANKETS, JUTE MESH AND VEGETATION. ALL SLOPES SHALL BE SEEDED, AND ANY ROAD OR DRIVEWAY SHOULDER AND BANKS SHALL BE STABILIZED IMMEDIATELY UPON COMPLETION OF FINAL GRADING UNTIL TURF IS ESTABLISHED.

3. PAVEMENT SUB-BASE AND BASE COURSES SHALL BE INSTALLED OVER AREAS TO BE PAVED AS SOON AS FINAL SUB-GRADES ARE ESTABLISHED AND UNDERGROUND UTILITIES AND STORM DRAINAGE SYSTEMS HAVE BEEN INSTALLED.

4. AFTER CONSTRUCTION OF PAVEMENT, TOPSOIL, FINAL SEED, MULCH AND LANDSCAPING, REMOVE ALL TEMPORARY EROSION CONTROL DEVICES ONLY AFTER ALL AREAS HAVE BEEN PAVED AND/OR GRASS HAS BEEN WELL ESTABLISHED AND THE SITE HAS BEEN INSPECTED AND APPROVED BY THE OWNER AND THE APPLICABLE REGULATORY AGENCIES.

5. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM OF 85% UNIFORM PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING OR OTHER MOVEMENTS.

6. MAINTAIN ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK SWEEP PARKING LOT AND REMOVE ALL TEMPORARY SEDIMENT CONTROLS WHEN AUTHORIZED BY LOCAL GOVERNING AUTHORITY. FILE NOT (NOTICE OF TERMINATION) WITH GOVERNING AUTHORITY RESPONSIBLE FOR REGULATING STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES PER NPDES.

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1		10/7/15	FP	RLR	BSS

THE NORTHERN PASS

Transmission Business

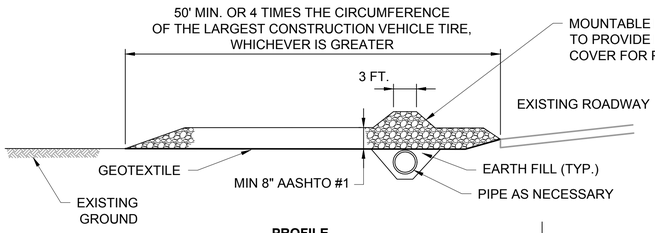
#

TRANSITION STATION #5
EROSION AND SEDIMENTATION CONTROL NOTES

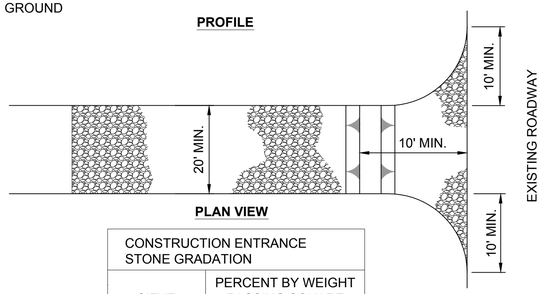
DATE: 10/1/2015
SCALE: NTS

DES: LMP	CHK: RLR
DRW: FP	APR: BSS

TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
SHEET 9 OF 18
NPTT809-C500
REVISION: XXX



PROFILE



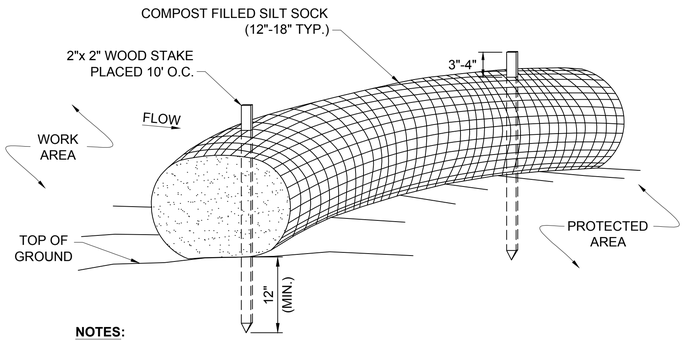
PLAN VIEW

CONSTRUCTION ENTRANCE STONE GRADATION	
SIEVE	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVE
2-1/2 INCH	100
2 INCH	90-100
1-1/2 INCH	35-70
1 INCH	0-15
1/2 INCH	0-5

NOTES:

1. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE SURFACE.
2. WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
3. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
4. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
5. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN STORM EVENT.

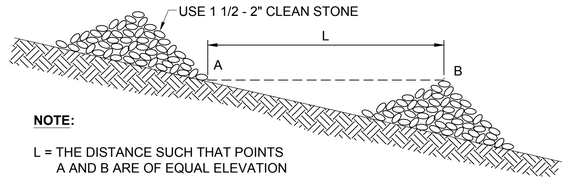
STABILIZED CONSTRUCTION ENTRANCE — 1 / C102
NOT TO SCALE



NOTES:

1. SILT SOCK SHALL BE FILTREXX™ SILTSOXX™ OR APPROVED EQUIVALENT.
2. SEE SPECIFICATIONS FOR SOCK SIZE AND COMPOST FILL REQUIREMENTS.
3. SILT SOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED AS NEEDED.
4. COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE QUALIFIED PROFESSIONAL.

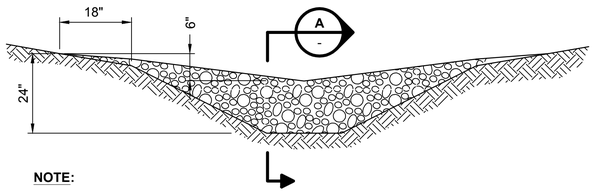
SILT SOCK — 4 / C102
NOT TO SCALE



NOTE:

L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION

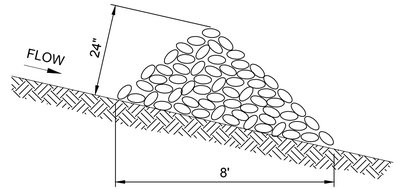
SIDE VIEW



NOTE:

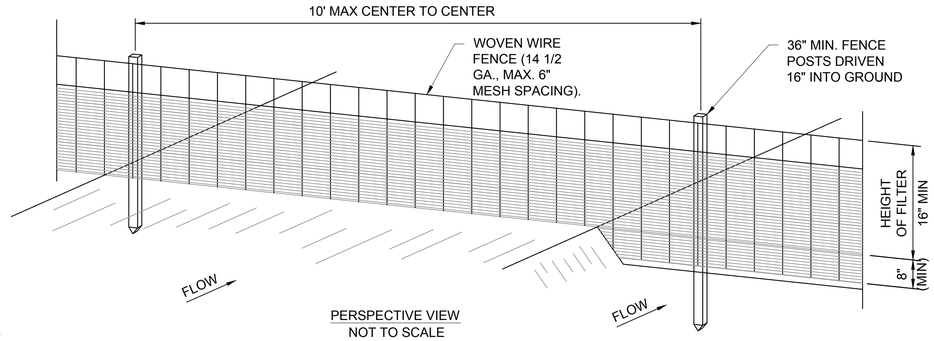
KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW AROUND THE DAM.

VIEW LOOKING UPSTREAM

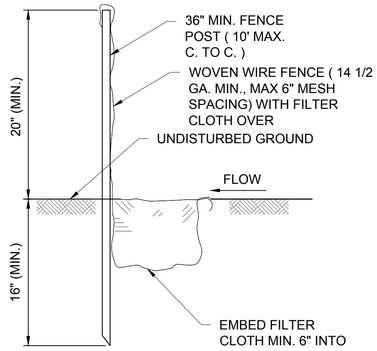


SECTION A

STONE CHECK DAM — 2 / C102
NOT TO SCALE



PERSPECTIVE VIEW
NOT TO SCALE

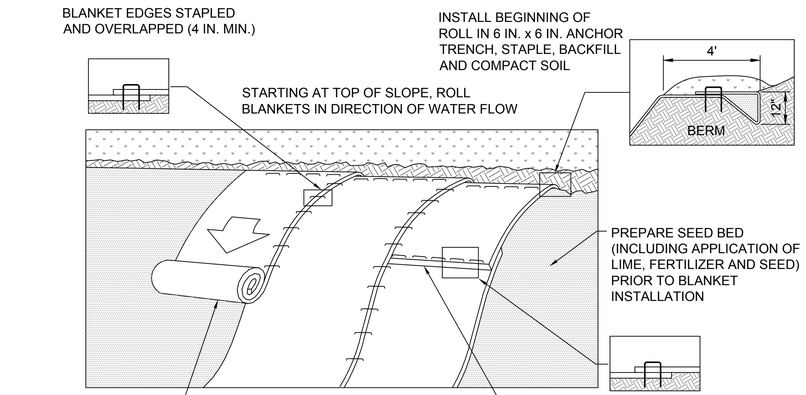


NOTES:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER- LAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS:	STEEL EITHER "T" OR "U" TYPE OR 2" HARDWOOD.
FENCE:	WOVEN WIRE 14 1/2 GA. 6" MAX. MESH OPENING.
FILTER CLOTH:	FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL.
PREFABRICATED UNIT:	GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

SILT FENCE — 3 / C102
NOT TO SCALE



NOTES:

1. SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
2. PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
3. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
4. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
5. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
6. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

EROSION CONTROL BLANKET — 5 / C102
NOT TO SCALE

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1	ISSUED FOR PERMITTING	10/7/15	FP	RLR	BSS

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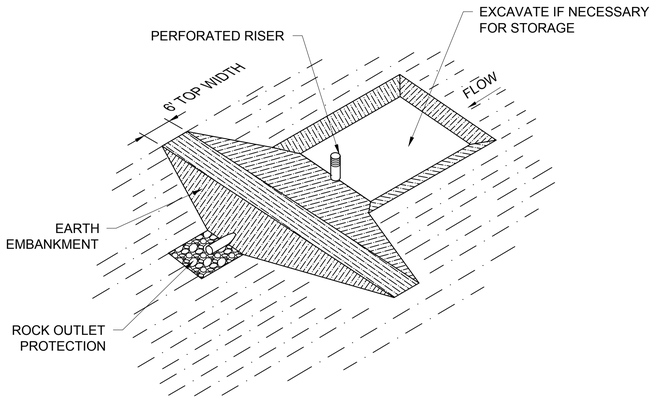
TRANSITION STATION #5
EROSION AND SEDIMENTATION CONTROL DETAILS

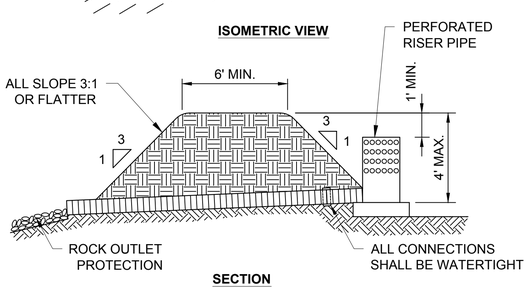
DATE: 10/7/2015
SCALE: NTS

DES: LMP | CHK: RLR
DRW: FP | APR: BSS

TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
SHEET 10 OF 18
NPTT810-C501
REVISION: XXX

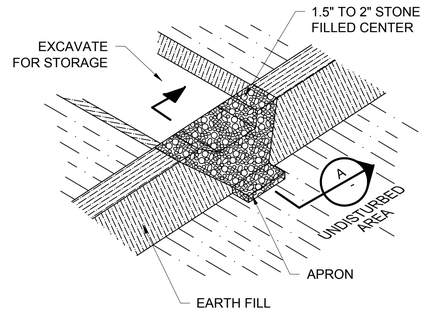


ISOMETRIC VIEW

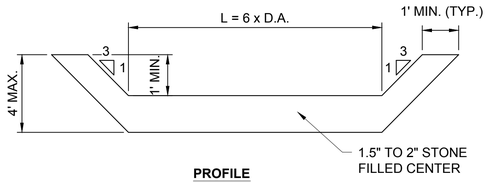


SECTION

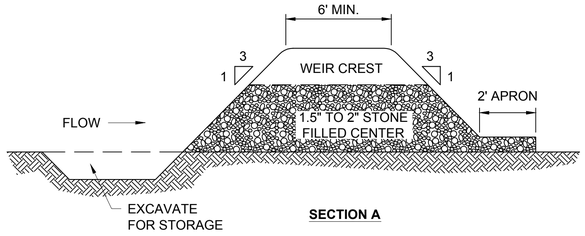
PIPE OUTLET SEDIMENT TRAP — 1 / C502
NOT TO SCALE



ISOMETRIC VIEW



PROFILE

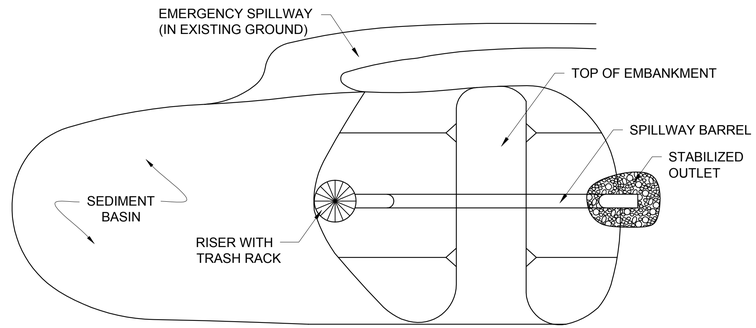


SECTION A

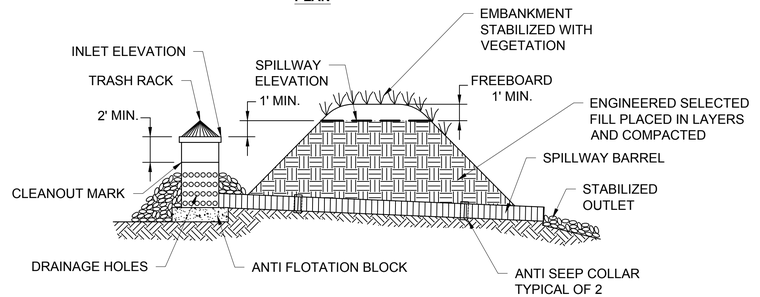
STONE OUTLET SEDIMENT TRAP — 2 / C502
NOT TO SCALE

NOTES:

1. REQUIRED FOR DISTURBED AREAS GREATER THAN 5 ACRES WITHIN A DRAINAGE AREA LESS THAN 100 ACRES.
2. SEDIMENT BASIN WILL BE REMOVED WITHIN 3 YEARS.

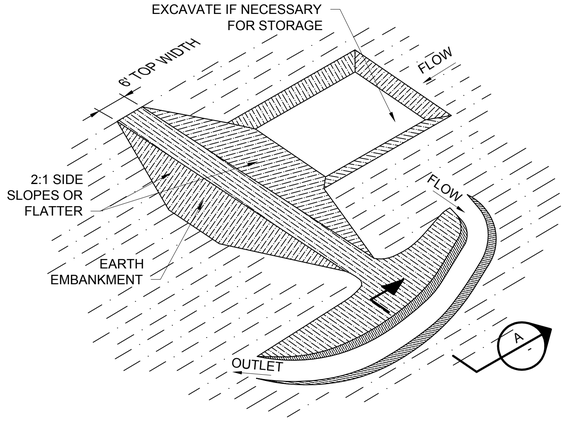


PLAN



SECTION

TYPICAL SEDIMENT BASIN — 3 / C502
NOT TO SCALE



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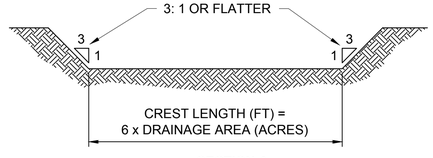
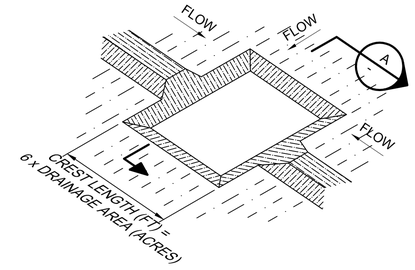
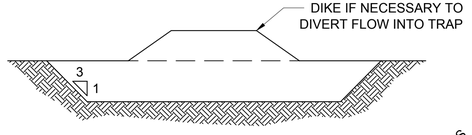


SECTION A

EMBANKMENT



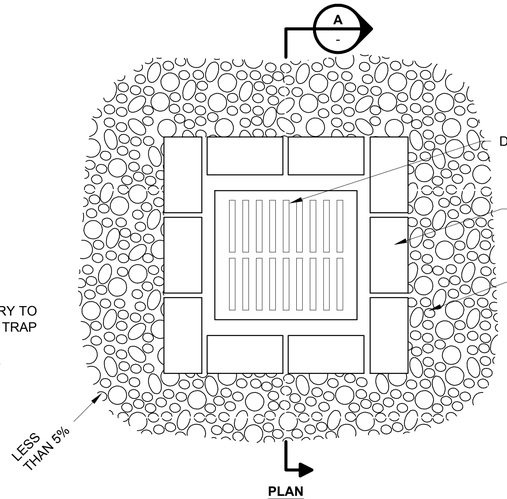
ISOMETRIC VIEW



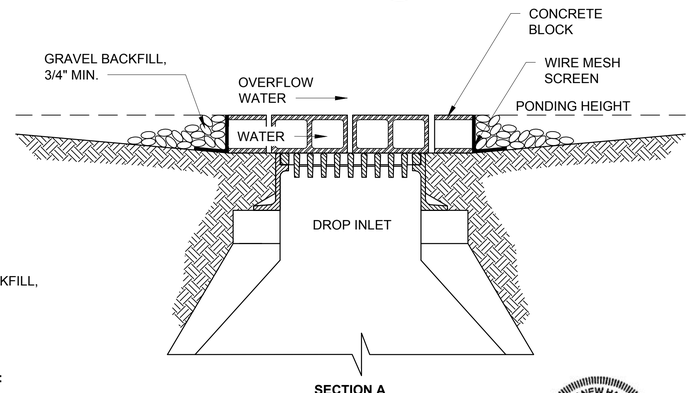
SECTION A

EXCAVATED

EARTH OUTLET SEDIMENT TRAP — 4 / C502
NOT TO SCALE



PLAN

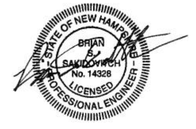


SECTION A

NOTES:

1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%)
2. EXCAVATE A BASIN OF SUFFICIENT SIZE ADJACENT TO THE DROP INLET.
3. THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

CONCRETE BLOCK AND GRAVEL DROP INLET SEDIMENT BARRIER — 5 / C102
NOT TO SCALE



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1		10/1/15	FP	RLR	BSS

TRANSITION STATION #5
EROSION AND SEDIMENTATION CONTROL DETAILS
DATE: 10/1/2015
SCALE: N.T.S.

DES: LMP | CHK: RLR
DRW: FP | APR: BSS
TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
SHEET 11 OF 18
NPTT811-C502
REVISION: XXX

THE NORTHERN PASS
Transmission Business
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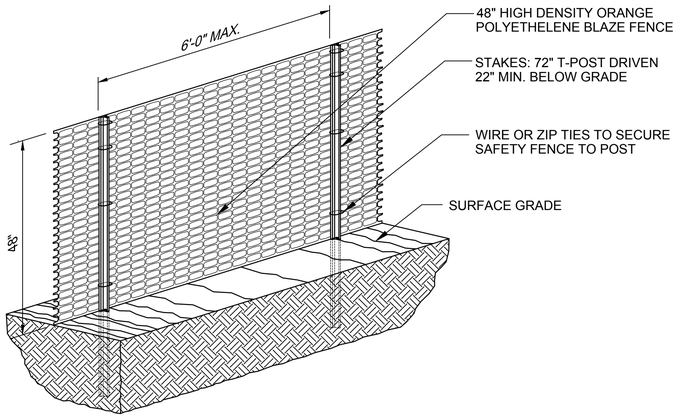
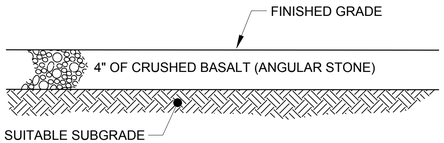


NOTES:

1. FOR LOCATION OF AREAS TO BE PROTECTED SEE SHEET C102.
2. SAFETY FENCE SHALL BE FASTENED SECURELY TO THE T-POSTS.
3. THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.

CONSTRUCTION FENCE — 1 / C102
NOT TO SCALE

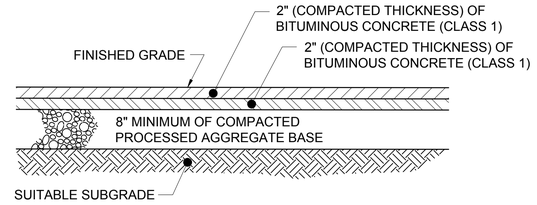


STATION AND ACCESS ROAD SURFACE STONE GRADATION	
SIEVE	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVE
1-1/2 INCH	100
1 INCH	93-100
1/2 INCH	27-58
1/4 INCH	0-8

NOTES:

1. REMOVE ALL LOAM, CLAY, MUCK, STUMPS, AND OTHER IMPROPER ROAD FOUNDATION MATERIAL WITHIN 2' OF SUBGRADE. REPLACE WITH COMPACTED GRANULAR FILL MATERIAL ACCEPTABLE TO APPROVING AGENCY. COMPACTION TO BE AT LEAST 95% OF STANDARD PROCTOR.
2. STATION SURFACE STONE SHALL EXTEND 3-FT OUTSIDE THE STATION PERIMETER FENCE.
3. GRAVEL ACCESS ROADS SHALL HAVE AT LEAST 8-INCHES OF PROCESSED AGGREGATE BASE.

STATION PAD & ACCESS AREA GRAVEL SURFACE SECTION — 3 / C100
NOT TO SCALE

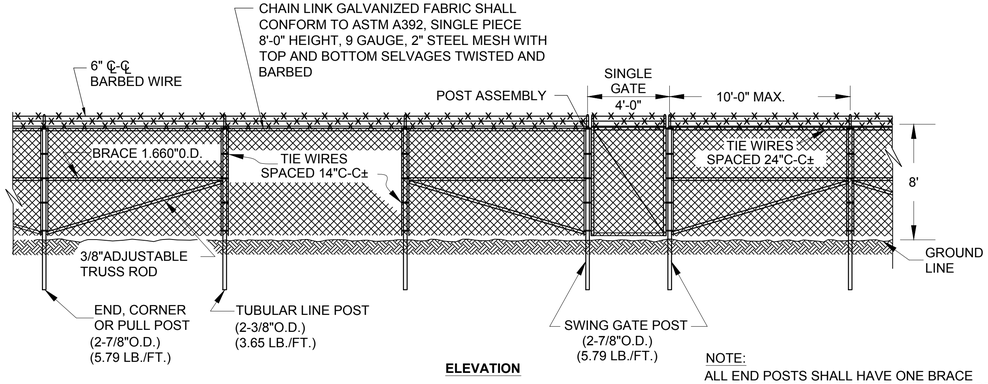


PAVEMENT AGGREGATE BASE STONE GRADATION	
SIEVE	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVE
2-1/2 INCH	100
2 INCH	95-100
3/4 INCH	50-75
1/4 INCH	25-45
NO. 40	5-20
NO. 100	2-12

ROAD CONSTRUCTION NOTES:

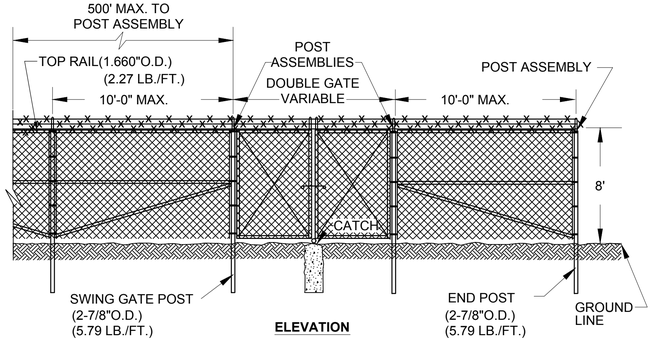
1. REMOVE ALL LOAM, CLAY, MUCK, STUMPS, AND OTHER IMPROPER ROAD FOUNDATION MATERIAL WITHIN 2' OF SUBGRADE. REPLACE WITH COMPACTED GRANULAR FILL MATERIAL ACCEPTABLE TO APPROVING AGENCY. COMPACTION TO BE AT LEAST 95% OF STANDARD PROCTOR.
2. ALL PAVEMENT, BASE MATERIALS AND WORKMANSHIP TO BE IN COMPLIANCE WITH N.H.D.O.T. "STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION.

BITUMINOUS CONCRETE PAVEMENT SECTION — 4 / C100
NOT TO SCALE

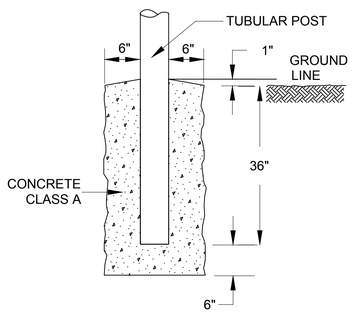


ELEVATION

NOTE:
ALL END POSTS SHALL HAVE ONE BRACE ALL CORNER AND INTERMEDIATE BRACE OR PULL POSTS SHALL HAVE TWO BRACES, WITH A MAXIMUM SPACING OF BETWEEN POST ASSEMBLIES OF 500 FEET.



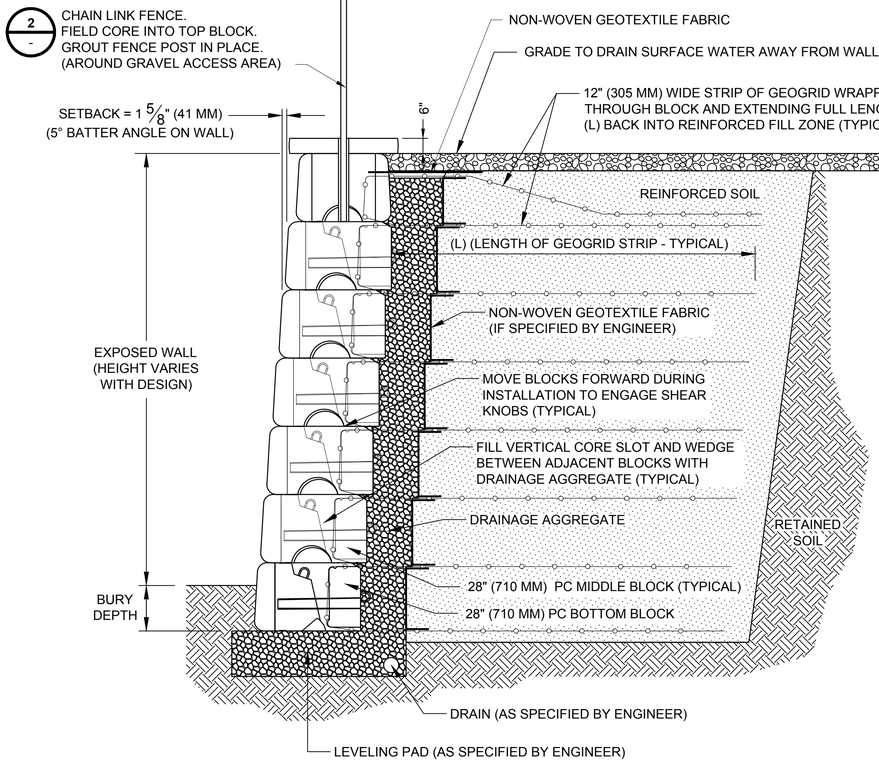
ELEVATION



FOOTING DETAIL

SECURITY FENCE — 2 / C100
NOT TO SCALE

2 — CHAIN LINK FENCE. FIELD CORE INTO TOP BLOCK. GROUT FENCE POST IN PLACE. (AROUND GRAVEL ACCESS AREA)



NOTES:

1. ONE DEGREE OR ZERO DEGREE BATTER ANGLE WALLS ARE AVAILABLE USING BLOCKS WITH 7 1/2" (190 MM) OR 6 3/4" (171 MM) KNOBS (SPECIALTY ITEMS).
2. ONLY USE STRIPS OF MIRAFI GEOGRID THAT HAVE BEEN FACTORY CUT AND ARE CERTIFIED FOR WIDTH AND STRENGTH BY TENCATE MIRAFI.
3. WALL SYSTEM TO BE REDI-ROCK WALL SYSTEM OR APPROVED EQUAL.
9. CONTRACTOR SHALL PROVIDE SIGNED AND SEALED DRAWINGS AND DESIGN CALCULATIONS BY A LICENSED ENGINEER IN THE STATE OF NEW HAMPSHIRE PRIOR TO START OF CONSTRUCTION.

RETAINING WALL WITH REINFORCEMENT — 5 / C104
NOT TO SCALE

This document has been digitally sealed.
Oct 5 2015

FOR PERMITTING PURPOSES ONLY NOT FOR CONSTRUCTION

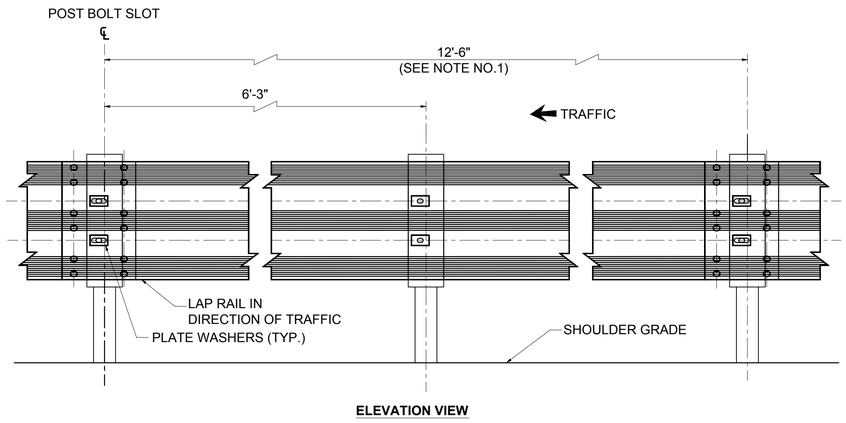
NO.	ISSUED FOR PERMITTING / REVISION	DATE	DRWN	CHKD	APPRV.
1		10/7/15	FP	RLR	BSS

THE NORTHERN PASS
Transmission Business

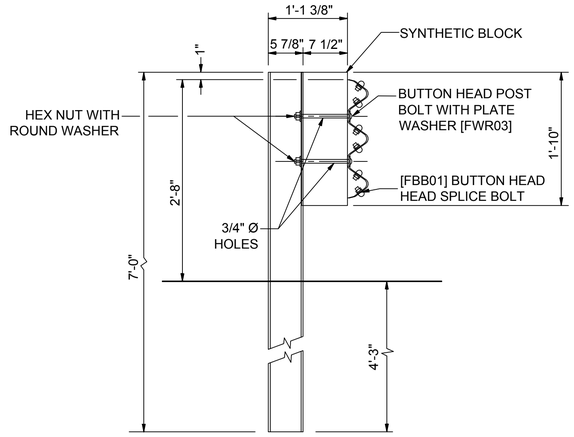
TRANSITION STATION #5 CONSTRUCTION DETAILS

DATE: 10/7/2015
SCALE: NTS

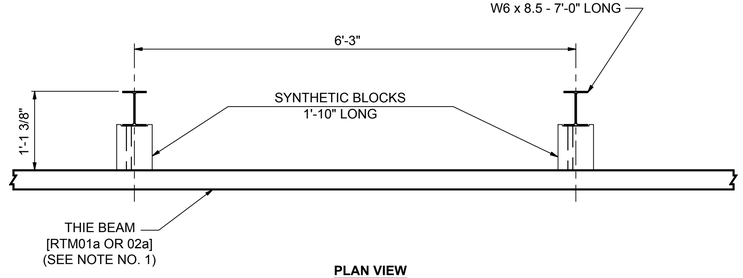
DES: LMP | CHK: RLR
DRW: FP | APR: BSS
TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
SHEET 12 OF 18
NPTT812-C503
REVISION: XXX



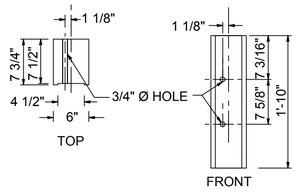
ELEVATION VIEW



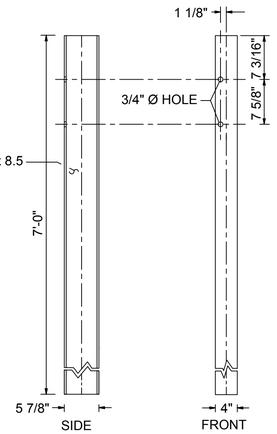
SIDE VIEW AT SPLICE POST



PLAN VIEW

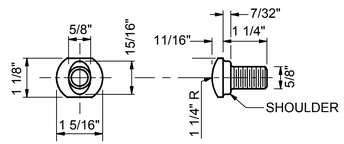


SYNTHETIC OFFSET BLOCK

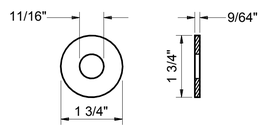


STEEL POST

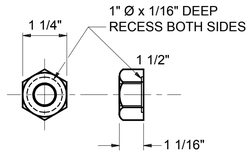
STRUCTURAL SHAPE STEEL POST & BLOCK



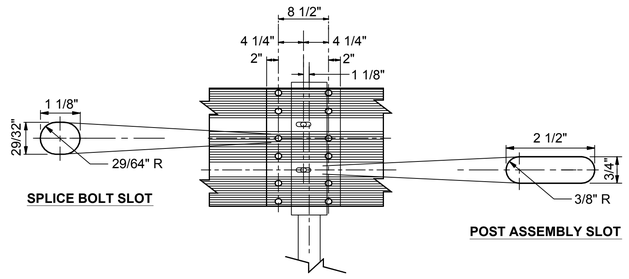
SPLICE POST
[FBB01]
(12 REQ'D PER SPLICE)



ROUND WASHER
[FWC16a]



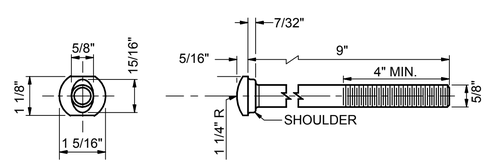
NUT FOR SPLICE & POST BOLTS
[FBB01]



SPLICE BOLT SLOT

POST ASSEMBLY SLOT

BEAM SPLICE



POST BOLT

NOTE :
LONGER ERECTION BOLTS MAY BE REQUIRED.

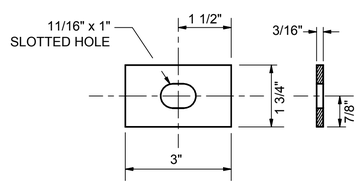
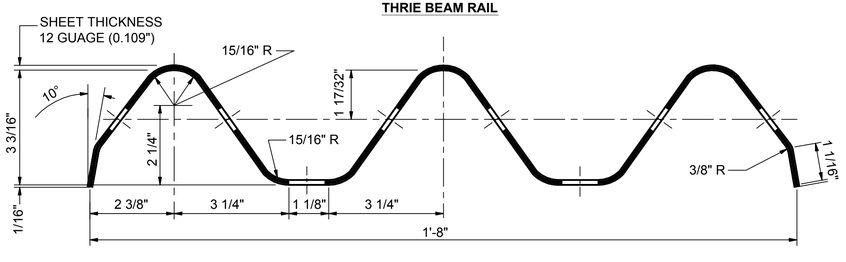
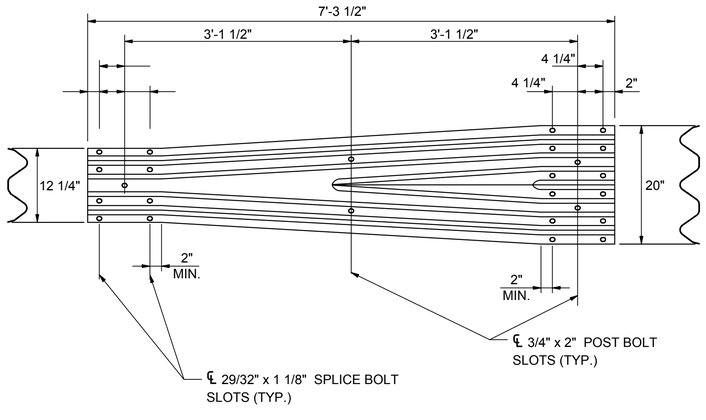


PLATE WASHER
[FWC03]

THRIE BEAM RAIL



THRIE BEAM RAIL SECTION
[RTM01a & RTM02a]



W-THRIE BEAM TRANSITION SECTION
[RTM01a]

NOTES:

1. 25'-0" RAIL PANELS MAY BE USED IN PLACE OF 12'-6" PANELS, EXCEPT ON CURVES WITH A RAIL RADIUS OF LESS THAN 300 FT.
2. GUIDERAIL HEIGHT SHALL BE SET FROM THE GRADE AT THE FACE OF RAIL.
3. DESIGNATIONS PROVIDED IN BRACKETS [ ] REFERENCE STANDARD ELEMENTS DETAILED IN "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE", LATEST ADOPTED VERSION, AASHTO-AGC-ARTBA JOINT COOPERATIVE COMMITTEE.
4. SEE STD. NO. DL-1 FOR BEAM GUIDERAIL DELINEATORS.
5. PAID FOR UNDER APPROPRIATE 606 ITEMS, OR AS SHOWN ON PLANS.
6. DIMENSIONS OF PLASTIC AND SYNTHETIC BLOCKOUTS ARE AS SHOWN ON MANUFACTURER'S DRAWINGS.
7. POSTS SHORTER THAN THE 7'-0" INDICATED ON THE DETAIL, BUT NOT LESS THAN 6'-6", MAY ONLY BE USED WHEN
   A) THE SLOPE BEHIND THE GUIDEDRAIL IS NO STEEPER THAN 4:1
   B) WHERE THE DISTANCE FROM THE BACK OF THE POST TO THE BREAK OF THE SLOPE IS A MINIMUM OF 2'-0"
   C) AND THEN ONLY AS APPROVED OR SPECIFICALLY SHOWN ON THE PLANS.

SOURCE: NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.
NOTE : NHDOT GUIDERAIL DETAILS SHOWN FOR REFERENCE ONLY.

NHDOT GUIDERAIL (GR-14) — 1 / C100
NOT TO SCALE

STATE OF NEW HAMPSHIRE — BRIAN S. SAKOWICH — No. 14328 — LICENSED PROFESSIONAL ENGINEER

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Oct 5 2015

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NOT FOR CONSTRUCTION

NO.	REVISION	DATE	DRWN	CHKD	APPRV
1	ISSUED FOR PERMITTING	10/7/15	FP	RLR	BSS

THE NORTHERN PASS
Transmission Business

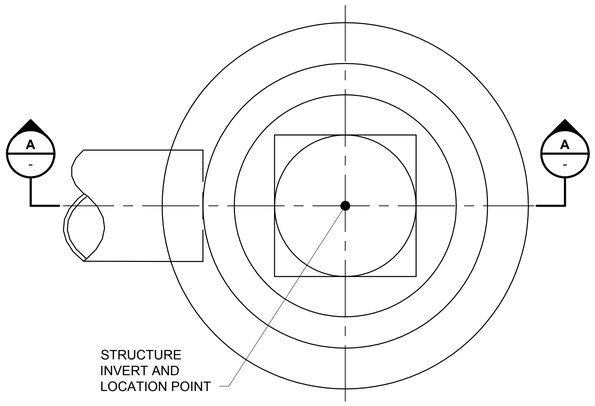
TRANSITION STATION #5
CONSTRUCTION DETAILS

DATE: 10/7/2015
SCALE: AS NOTED

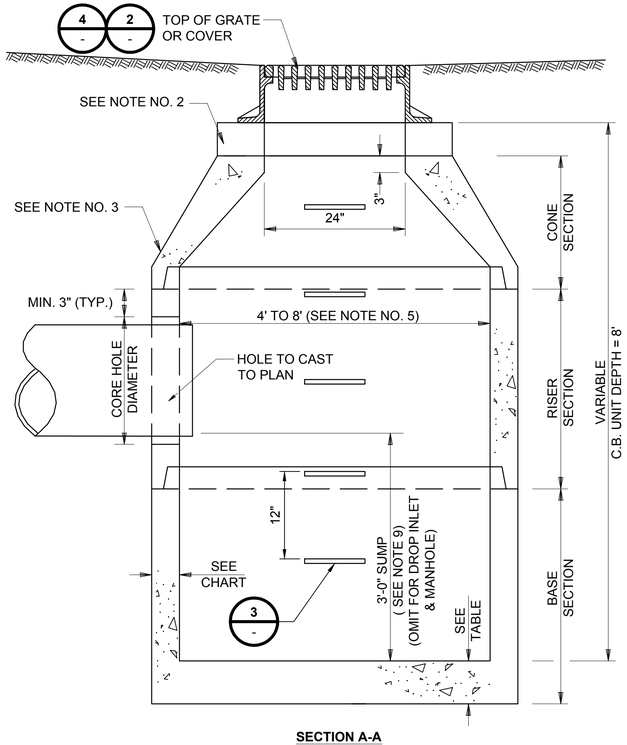
DES: LMP | CHK: RLR
DRW: FP | APR: BSS
TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
SHEET 13 OF 18
NPTT813-C504
REVISION: XXX

\\BMCD\DFS\CLIENTS\TND\NUSC\58466_NPT\DESIGN\SUBSTATION\801-TRANSITION_STATION-5A\CADD\NPTT813-C504.DWG 10/5/2015 9:16 AM BSAKIDOVITCH

DIAMETER	WALL THICKNESS (MIN.)	FLOOR THICKNESS (MIN.)
4'	5"	6"
5'	6"	8"
6'	7"	8"
8'	9"	10"



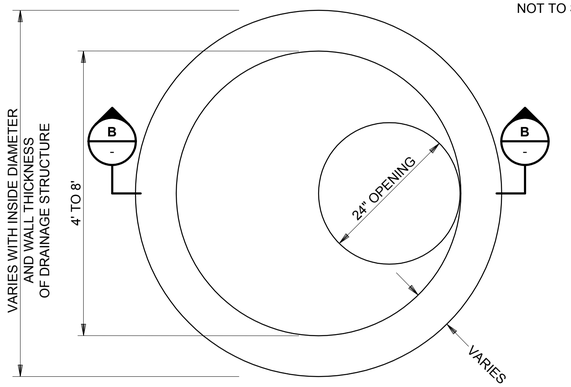
PLAN



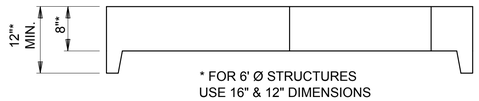
SECTION A-A

SOURCE: NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD PLANS FOR ROAD CONSTRUCTION 2010.

CORE HOLE SIZE				
PIPE SIZE	RCP CORE HOLE DIA.		PLASTIC CORE HOLE DIA.	
INCHES	INCHES	FEET	INCHES	FEET
6			7	0.6
12	18	1.5	18	1.5
15	22	1.8	20	1.7
18	26	2.2	24	2.0
24	34	2.8	32	2.7
30	42	3.5	42	3.5
36	48	4.0	48	4.0
42	54	4.5	54	4.5
48	64	5.3	64	5.3
54	72	6.0		
60	78	6.5		



PLAN



* FOR 6' Ø STRUCTURES
USE 16" & 12" DIMENSIONS

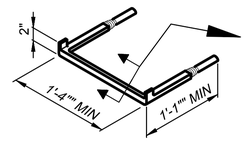
SECTION B-B

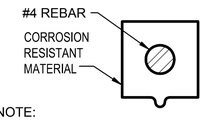
FLAT SLAB TOP

GENERAL NOTES:

1. STRUCTURE TO CONFORM TO NH DOT SECTION 604 REQUIREMENTS.
2. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).
3. CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
4. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
5. FOR STRUCTURES WITH DIAMETERS GREATER THAN 4', THE DIAMETER MAY BE CONSTANT FROM TOP TO BOTTOM WITH A FLAT SLAB TOP, OR A RISER SECTION THAT TRANSITIONS FROM A STANDARD 4' CONE SECTION TO THE LARGER DIAMETER RISER OR BASE SECTION MAY BE USED.
6. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
7. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
8. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.
9. DEEP SUMP CATCH BASIN SHALL HAVE A MINIMUM OF 4' SUMP.

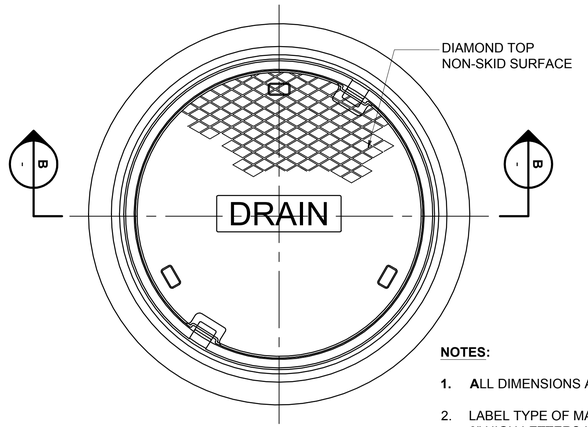
PRECAST CONCRETE MANHOLE AND CATCH BASIN — 1 / C104
NOT TO SCALE





NOTE:
No. 4 REBAR ENCASED IN CORROSION RESISTANT RUBBER OR OTHER MATERIAL APPROVED BY THE OWNER'S REPRESENTATIVE.

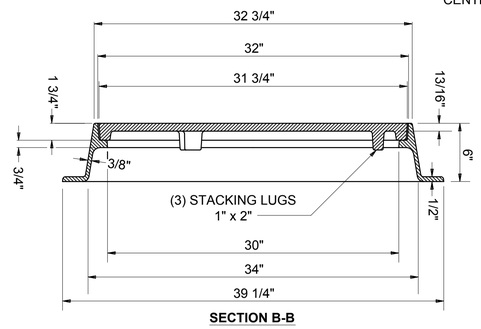
MANHOLE STEP — 3 / C104
NOT TO SCALE



PLAN

NOTES:

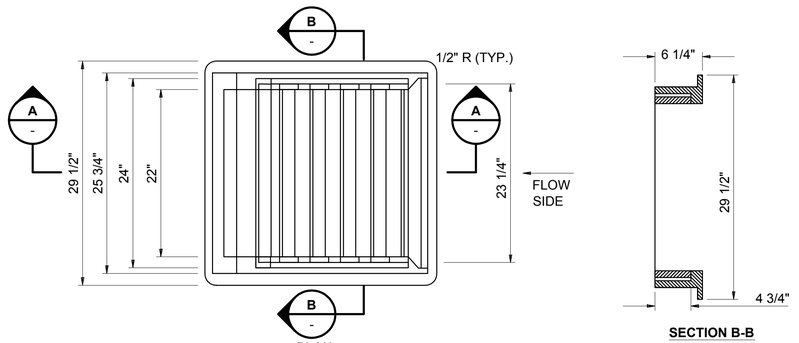
1. ALL DIMENSIONS ARE NOMINAL.
2. LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN THE CENTER OF THE COVER.



SECTION B-B

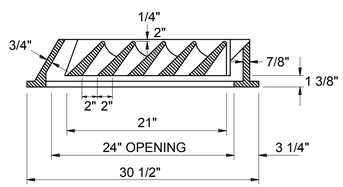
SOURCE: NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD PLANS FOR ROAD CONSTRUCTION 2010.

MANHOLE FRAME AND COVER — 4 / C104
NOT TO SCALE



PLAN

SECTION B-B



SECTION A-A

NOTES:

1. ALL DIMENSIONS ARE NOMINAL.
2. NOT TO BE USED WHEN BICYCLE TRAFFIC IS ANTICIPATED.
3. USE 3-FLANGE FRAME IF INSTALLED ADJACENT TO GRANITE CURB.
4. FREE OPEN AREA = 1.80 S.F.

This document has been digitally sealed.
Oct 5 2015

SOURCE: NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD PLANS FOR ROAD CONSTRUCTION 2010.

TYPE "E" GRATE — 2 / C104
NOT TO SCALE

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NO.	REVISION	DATE	DRWN	CHKD	APPRV
1	ISSUED FOR PERMITTING	10/1/15	FP	RLR	BSS

THE NORTHERN PASS
Transmission Business

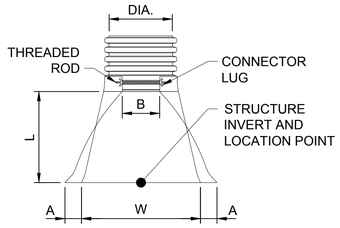
TRANSITION STATION #5
CONSTRUCTION DETAILS

DATE: 10/1/2015
SCALE: NTS

DES: LMP	CHK: RLR
DRW: FP	APR: BSS

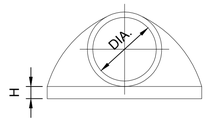
TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
SHEET 14 OF 18
NPT814-C505
REVISION: XXX

\\BMCD\DFS\CLIENTS\TND\NUSC\58466_NPT\DESIGN\SUBSTATION\801-TRANSITION_STATION-5A\CADD\NPTT814-C505.DWG 10/5/2015 9:14 AM BSAKIDOVITCH

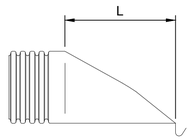


PLAN

PIPE DIA.	A	B	H	L	W
12"	6.5"	10.0"	6.5"	25'	29"



ELEVATION



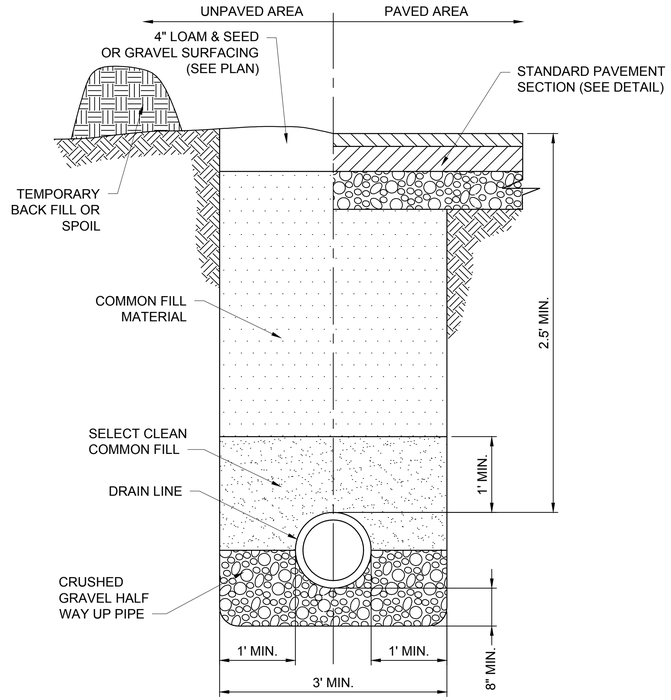
END VIEW

TYPICAL CROSS-SECTION

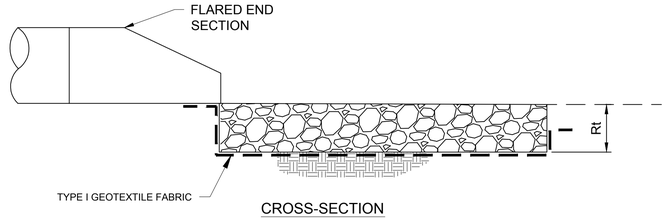
NOTES:

1. FLARED END SECTION SHALL BE HIGH DENSITY POLYETHYLENE MEETING ASTM D3350 MINIMUM CELL CLASSIFICATION 213320C.
2. METAL THREADED FASTENING ROD SHALL BE STAINLESS STEEL.
3. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS

END SECTION FOR HDPE PIPE — 1
NOT TO SCALE — C104



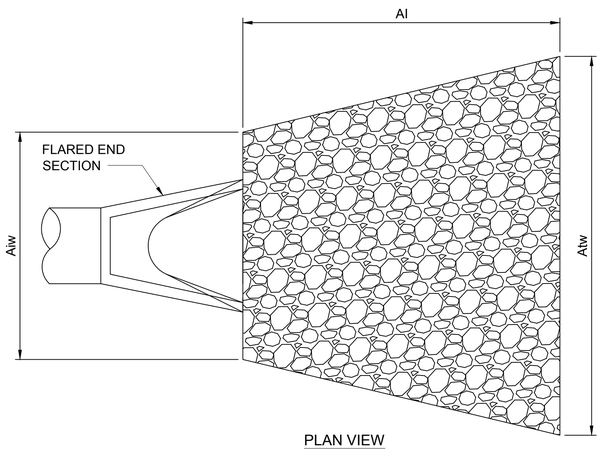
PIPE TRENCH — 3
NOT TO SCALE — C104



CROSS-SECTION

NOTES:

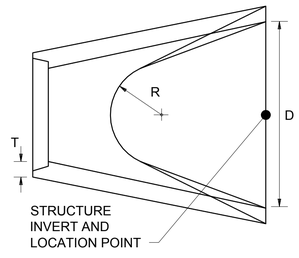
1. THE SUBGRADE FOR GEOTEXTILE FABRIC AND RIP-RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN.
2. THE ROCK USED FOR RIP-RAP SHALL CONFORM TO NHDOT CLASS C STONE.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP-RAP. DAMAGED AREAS IN THE FABRIC SHALL BE PREPARED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP-RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.



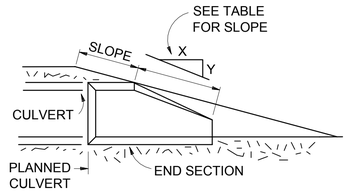
PLAN VIEW

OUTLET NO.	PIPE DIA Pd (IN)	RIP RAP		APRON		
		SIZE (D50)	THICK. Rt (IN)	LENGTH Al (FT)	INITIAL WIDTH Aiw (FT)	TERMINAL WIDTH Atw (FT)
A	12	6	18	9	3	12

OUTLET PROTECTION — 2
NOT TO SCALE — C104



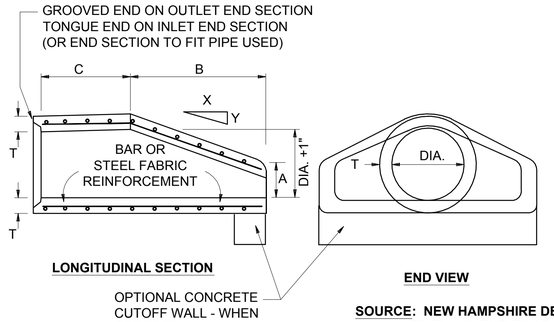
PLAN



SLOPE DETAIL

NOTES:

1. DESIGN OF END SECTION SHALL CONFORM TO STANDARD REINFORCED CONCRETE PIPE.
2. CUT OFF WALL TO BE POURED IN FIELD, IF NECESSARY, AS DIRECTED BY THE ENGINEER.
3. PAYMENT FOR THE CUT OFF WALL WILL BE MADE UNDER THE APPROPRIATE CONTRACT ITEMS.
4. PROVIDE ANIMAL BARRIER ON OUTLET. BARRIER SHALL NOT RESTRICT STORMWATER FLOW.



LONGITUDINAL SECTION

END VIEW

ITEM NO.	PIPE DIA.	APPROX. SLOPE X to Y	A	B	C	D	R	T
603.30112	12"	3 TO 1	4"	24"	48 7/8"	24"	9"	2"

SOURCE: NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD PLANS FOR ROAD CONSTRUCTION 2010.

CONCRETE END SECTION FOR REINFORCED CONCRETE PIPE — 4
NOT TO SCALE — C104

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NO.	ISSUED FOR: PERMITTING REVISION	DATE	DRWN	CHKD	APPRV.
1		10/1/15	FP	RLR	BSS

THE NORTHERN PASS
Transmission Business

TRANSITION STATION #5 CONSTRUCTION DETAILS

DATE: 10/1/2015
SCALE: NTS

DES: LMP | CHK: RLR
DRW: FP | APR: BSS

TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
SHEET 15 OF 18
NPTT815-C506
REVISION: XXX

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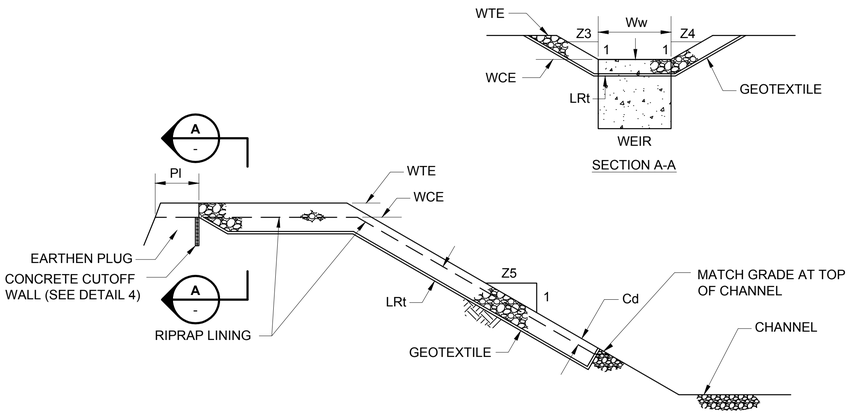
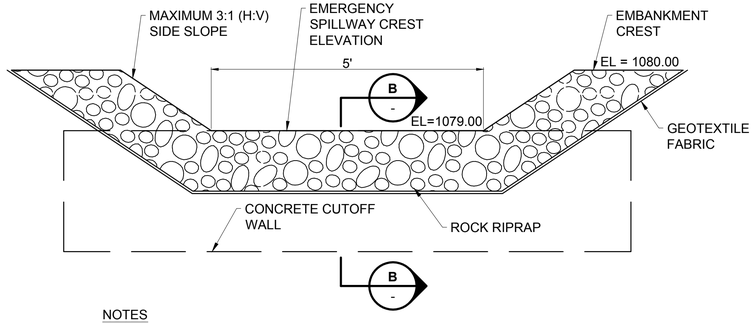


BASIN NO.	WEIR						LINING		CHANNEL	
	Z3 (FT)	Z4 (FT)	TOP ELEV WTE (FT)	CREST ELEV WCE (FT)	WIDTH Ww (FT)	PI (FT)	RIPRAP SIZE (d_{50})	RIPRAP THICK. LRt (IN)	Z5 (FT)	DEPTH Cd (FT)
1	3	3	1080.00	1079.00	5	3	12	36	2	0'

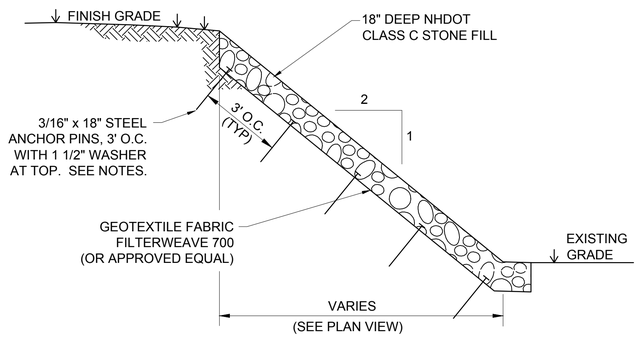
SECTION THROUGH SPILLWAY 1 / C104

SECTION B-B



NOTES
1. SEE SECTION THROUGH SPILLWAY DETAIL 1 FOR FURTHER INFORMATION.

SPILLWAY APRON 3 / C104
NOT TO SCALE



NOTES:

1. GEOTEXTILE PLACEMENT: THE GEOTEXTILE SHALL BE PLACED ON A SMOOTH GRADED SURFACE APPROVED BY THE ENGINEER. THE GEOTEXTILE SHALL BE PLACED IN SUCH A MANNER THAT IT WILL NOT EXCESSIVELY STRETCH OR TEAR UPON PLACEMENT OF THE OVERLYING MATERIALS. CARE SHOULD BE TAKEN TO PLACE THE GEOTEXTILE IN INTIMATE CONTACT WITH THE SOIL SUCH THAT NO VOID SPACES EXIST BETWEEN THE UNDERLYING SOIL AND THE GEOTEXTILE. ANCHORING OF THE GEOTEXTILE SHALL BE ACCOMPLISHED THROUGH THE USE OF KEY TRENCHES OR APRONS AT THE CREST AND TOE OF SLOPE.

2. GEOTEXTILE SHEETS SHALL BE JOINED BY EITHER SEWING OR OVERLAPPING. ALL OVERLAPS AND SEAMS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. OVERLAPPED SHEETS SHALL HAVE A MINIMUM OVERLAP OF 18 IN. EXCEPT WHERE PLACED UNDERWATER WHERE THE OVERLAP SHALL BE A MINIMUM OF 3 FT. OVERLAPS SHALL BE CONSTRUCTED WITH THE UPSTREAM SHEET PLACED OVER THE DOWNSTREAM SHEET OR THE UPSLOPE SHEET PLACED OVER THE DOWNSLOPE SHEET. ALL OVERLAPS SHALL BE PINNED ON 3 FT. CENTERS TO HOLD THE OVERLAP IN PLACE DURING STONE PLACEMENT. PINS ARE RECOMMENDED TO BE 3/16 IN. DIAMETER, 18 IN. LONG STEEL PINS POINTED AT ONE END, AND FITTED WITH A 1.5 IN. DIAMETER WASHER AT THE OTHER.

3. CARE SHALL BE TAKEN TO AVOID CONTAMINATION OF THE GEOTEXTILE DURING CONSTRUCTION. CONTAMINATED GEOTEXTILE SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. DAMAGED GEOTEXTILE SHALL BE REMOVED OR REPAIRED AS DIRECTED BY THE ENGINEER AT NO COST TO THE OWNER A GEOTEXTILE PATCH MAY BE PLACED OVER DAMAGED AREAS IF APPROVED BY THE ENGINEER. THE PATCH SHALL EXTEND 3 FT. BEYOND THE PERIMETER OF THE TEAR OR DAMAGE.

4. GRAVEL AND RIP RAP: GRAVEL AND RIP RAP PLACEMENT SHALL BEGIN AT THE TOE AND PROCEED UP THE SLOPE. RIP RAP SHALL NOT BE DROPPED ONTO THE GEOTEXTILE FROM A HEIGHT OF MORE THAN 1 FT. GRAVEL SHALL NOT BE DROPPED ONTO THE GEOTEXTILE FROM A HEIGHT EXCEEDING 3 FT. ANY GEOTEXTILE DAMAGED DURING PLACEMENT OF RIP RAP OR GRAVEL SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE. IN UNDERWATER APPLICATIONS, THE GEOTEXTILE AND REQUIRED THICKNESS OF RIP RAP SHALL BE PLACED THE SAME DAY.

SLOPE DETAIL 2 / C100 C101
NOT TO SCALE

NO.	ISSUED FOR: PERMITTING REVISION	DATE	DRWN	CHKD	APPRV
1		10/1/15	FP	RLR	BSS

THE NORTHERN PASS
Transmission Business

TRANSITION STATION #5
CONSTRUCTION DETAILS

DATE: 10/1/2015
SCALE: N.T.S

DES: LMP | CHK: RLR
DRW: FP | APR: BSS
TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
SHEET 16 OF 18
NPTT816-C507
REVISION: XXX

STATE OF NEW HAMPSHIRE
BRIAN S. SAKIDOVITCH
No. 14328
LICENSED PROFESSIONAL ENGINEER

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Oct 5 2015

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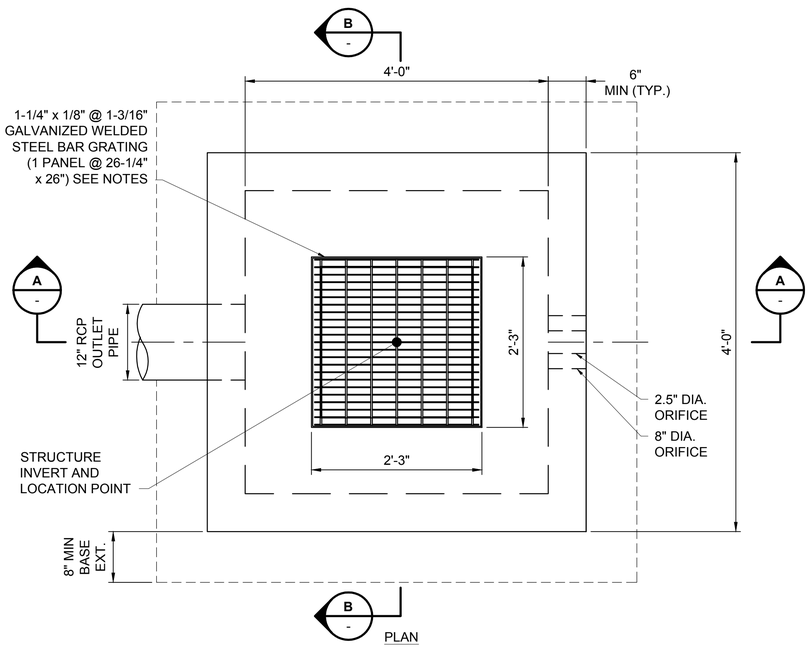
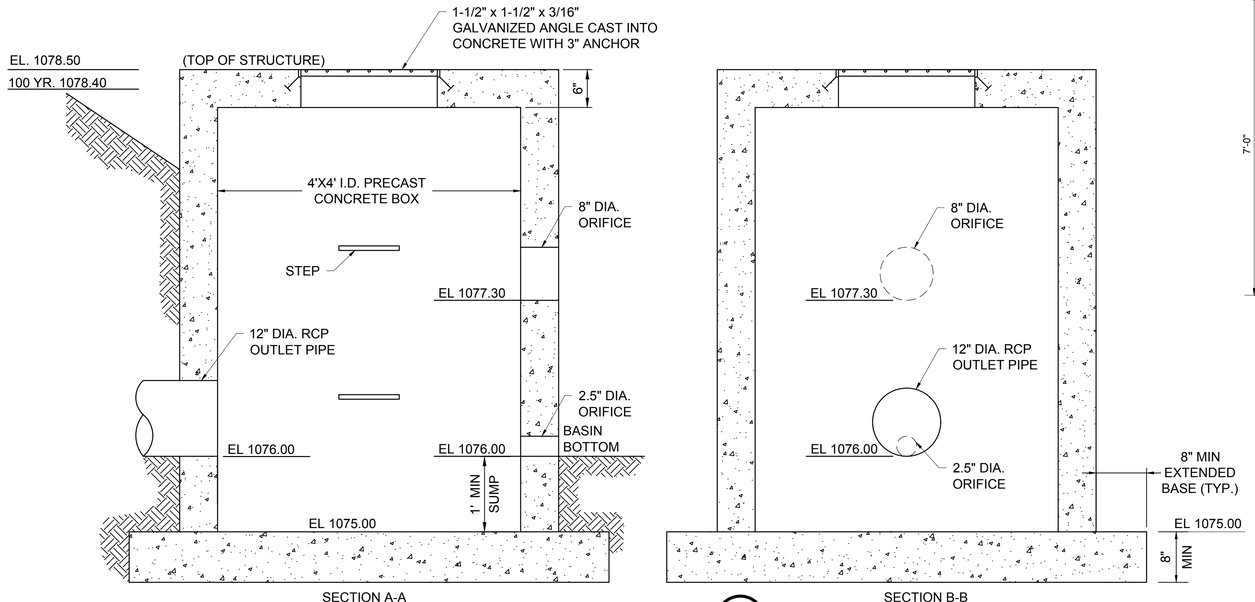
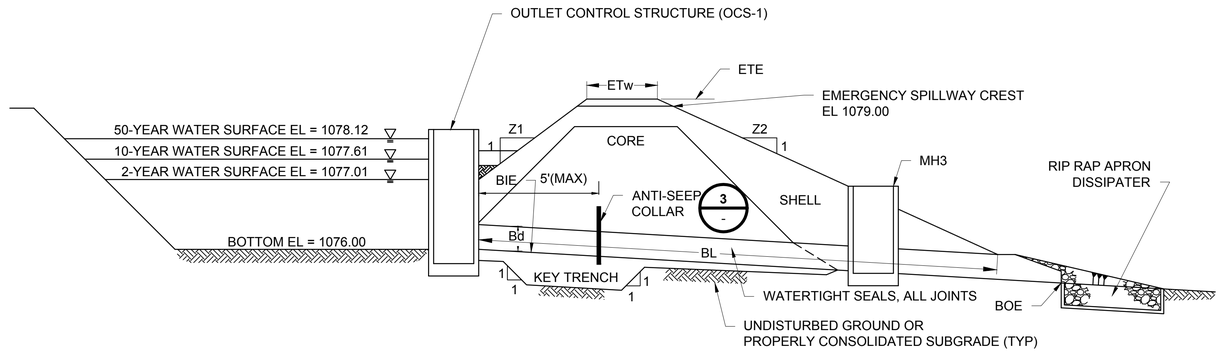


OUTLET CONTROL STRUCTURE NOTES:

1. STRUCTURE IS TO BE PRECAST CONCRETE.
2. THE LOCATION AND ELEVATION INDICATED ON NPTT807-C104 ARE AT THE TOP CENTER OF THE GRATE. THE ORIFICE HOLES SHOULD BE PLACED AT THE ELEVATIONS AS SHOWN ON THE PLANS AND DETAILS.
3. GRATING SHALL BE AMICO STANDARD WELDED TYPE "W" 19W4 RESISTANCE WELDED GRATING AS MANUFACTURED BY ALABAMA METAL INDUSTRIES CORP. OR ENGINEERING APPROVED EQUAL.



OUTLET CONTROL STRUCTURE 2 / C104
NOT TO SCALE



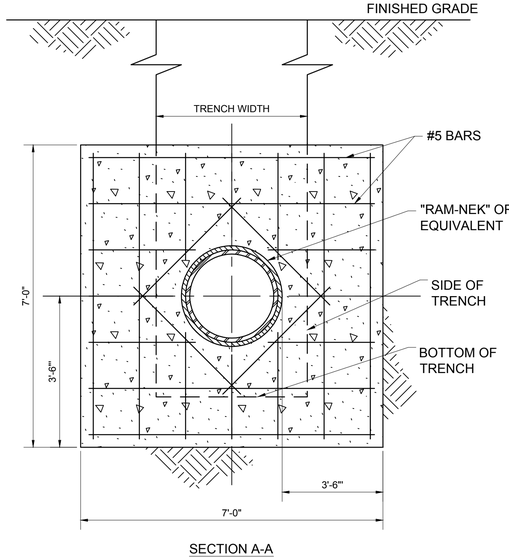
BASIN NO.	Z1 (FT)	Z2 (FT)	BARREL					EMBANKMENT		
			DIA Bd (IN)	INLET ELEV BIE (FT)	MAT'L	LENGTH BL (FT)	OUTLET ELEV BOE (FT)	TOP ELEV ETE (FT)	TOP WIDTH ETw (FT)	CREST (FT)
DB-1	3:1	3:1(*)	12"	1076.00	RCP	28	1074.00	1080.00	6	1079.00

(*) NORTHWEST CORNER OF BASIN = 2:1

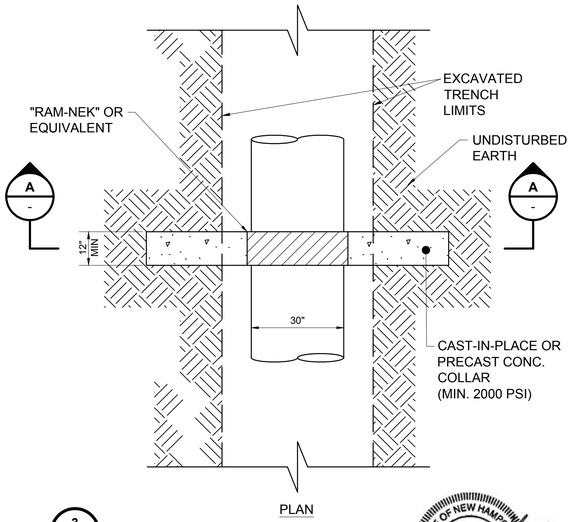
DETENTION BASIN CROSS SECTION 1 / C104
NOT TO SCALE

NOTES:

1. WRAP PIPE WITH "RAM-NEK" OR EQUIVALENT WHERE PIPE IS EXPOSED TO CONCRETE PRIOR TO POURING.
2. EXCAVATION & BACKFILL SHALL BE AS SPECIFIED.
3. DO NOT PLACE WITHIN 2 FEET OF A PIPE JOINT.
4. REFER TO DETAIL 1 FOR LOCATION.



ANTI SEEP COLLAR 3 / C508
NOT TO SCALE



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1	PERMITTING	10/7/15	FP	RLR	BSS

THE NORTHERN PASS
Transmission Business

TRANSITION STATION #5
CONSTRUCTION DETAILS

DATE: 10/7/2015
SCALE: N.T.S.

DES: LMP | CHK: RLR
DRW: FP | APR: BSS
TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
SHEET 17 OF 18
NPTT817-C508
REVISION: XXX

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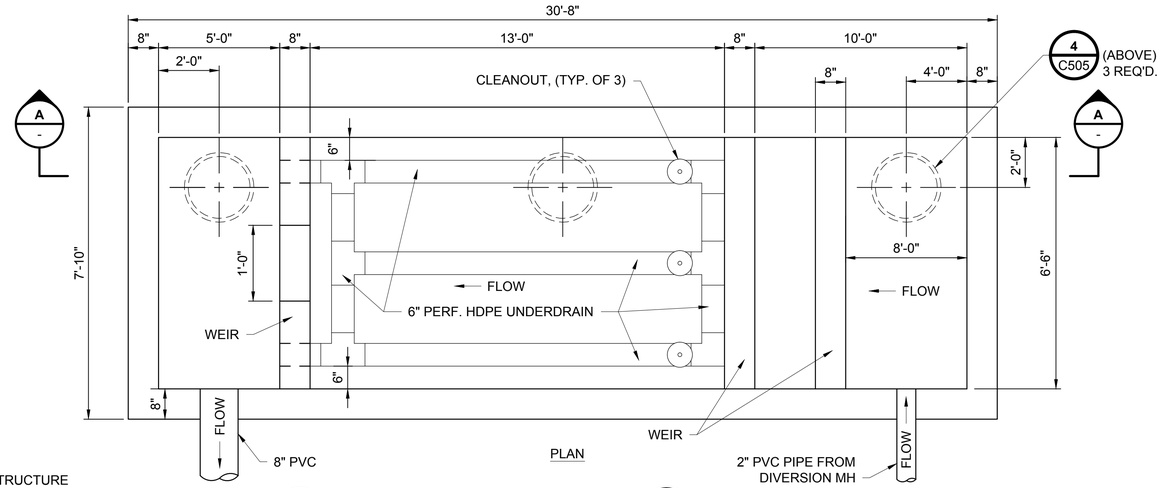

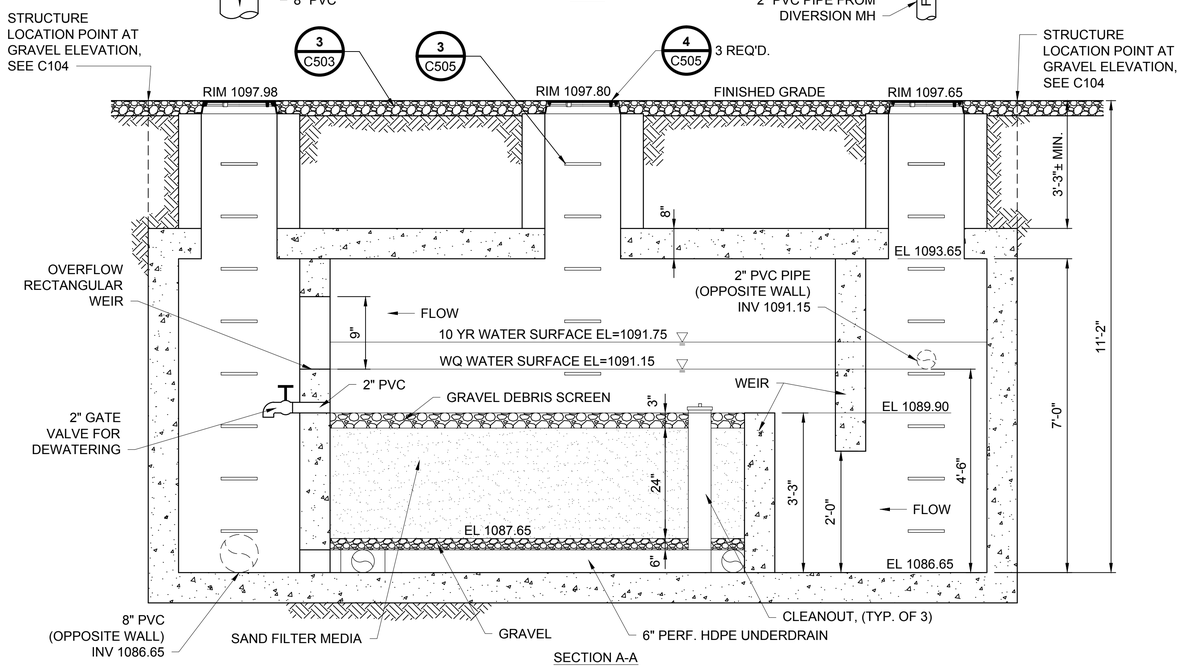

MATERIAL	SPECIFICATIONS / TEST METHOD	SIZE	NOTES
SAND FILTER	ASTM C-33 CONCRETE SAND	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GREYSTONE #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.
UNDERDRAIN PIPING	ASTM F758, TYPE PS28	6" RIGID SCHEDULE 40 PVC OR HDPE	3/8" PERFORATED @ 6" ON CENTER, 4 HOLES PER ROW, MINIMUM OF 3" OF GRAVEL OVER PIPES.
UNDERDRAIN GRAVEL	ASTM C-33	NO. 4 (1" TO 2" DIA. STONE)	CLEAN WASHED STONE, FREE OF FINES AND ORGANIC MATERIAL
GRAVEL DEBRIS SCREEN (PEA GRAVEL)	ASTM D448	NO. 8 (3/8" PEA GRAVEL)	CLEAN WASHED STONE

NOTES:

1. SAND FILTER CHAMBER SHALL BE PRE-CAST CONCRETE.
2. STRUCTURE SHALL BE DESIGNED PER ACI 318 AND ASTM C890.
3. STRUCTURE SHALL BE DESIGNED TO RESIST HS-20 TRUCK LOADING.
4. PROVIDE EXTERIOR ASPHALTIC WATERPROOF COATING.
5. CONTRACTOR SHALL PROVIDE ANTI-FLOTATION CALCULATIONS AND DEVICES AS REQUIRED FOR A STABLE INSTALLATION.
6. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS, STEEL REINFORCEMENT AND BUOYANCY CALCULATIONS SIGNED AND SEALED BY A NEW HAMPSHIRE LICENSED ENGINEER.
7. ABSOLUTELY NO RUNOFF IS TO ENTER THE SAND FILTER UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED. SURFACE OF FILTER BED IS TO BE LEVEL.

SAND FILTER SF-1 — 1 / C104
NOT TO SCALE

STATE OF NEW HAMPSHIRE — BRIAN K. SAKILOWICH — No. 14328 — LICENSED PROFESSIONAL ENGINEER

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NO.	ISSUED FOR PERMITTING REVISION	DATE	DRWN	CHKD	APPRV
1		10/1/15	FP	RLR	BSS

THE NORTHERN PASS
Transmission Business

TRANSITION STATION #5
CONSTRUCTION DETAILS

DATE: 10/1/2015
SCALE: N'TS

DES: LMP | CHK: RLR
DRW: FP | APR: BSS
TOWN: BETHLEHEM, NH
TRANSMISSION LINE:
MILE NO:
SHEET 18 OF 18
NPTT818-C509
REVISION: XXX

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